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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

Rhoads et al.

Application No.: 09/465,418

Filed: December 16, 1999

For: COUNTERFEIT DETERRENCE
SYSTEM

Examiner: Bali, Vikkram

Date: November 29, 2005

Art Unit 2623

Confirmation No. 8844

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I hereby certify that this paper and the documents referred to as being attached or enclosed herewith are being deposited with the United States Postal Service on November 29, 2005 as First Class Mail in an envelope addressed to: MAIL STOP APPEAL BRIEF – PATENTS, COMMISSIONER FOR PATENTS, P.O. Box 1450, Alexandria, VA 22313-1450.

William Y. Conwell
Attorney for Applicant

TRANSMITTAL LETTER

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Enclosed for filing in the above-captioned matter are the following:

- Supplemental Appeal Brief
- If any extension of time is required, please consider this a petition therefor.
- Appellants request reinstatement of the appeal (MPEP Section 1208.02), and request that the fees paid in connection with the original Notice of Appeal and Appeal Brief be applied here. Please charge any further fee that might be required under 37 CFR 1.17(f) or any deficiency to deposit account 50-1071.

Date: November 29, 2005

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Respectfully submitted,

DIGIMARC CORPORATION

By _____

William Y. Conwell
Registration No. 31,943

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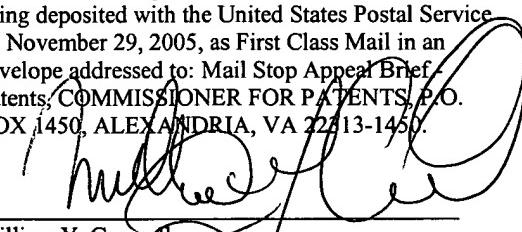
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Art Unit 2623

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William Y. Conwell
Attorney for Appellant

SUPPLEMENTAL APPEAL BRIEF

Mail Stop: Appeal Brief – Patents
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Alexandria, VA 22313-1450

Sir:

This supplemental brief is responsive to the new Examiner's re-opening of prosecution (by Action mailed August 29, 2005), following Appellants' original Appeal Brief.

Appellants request reinstatement of the appeal (MPEP Section 1208.02), and request that the fees paid in connection with the original Notice of Appeal and Appeal Brief be applied here. Please charge any further fee that might be required under 37 CFR 1.17(f) or any deficiency to deposit account 50-1071.

For the Board's convenience, the present Brief has been drafted in stand-alone format, and does not incorporate by reference any material from the original Brief.

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I. REAL PARTY IN INTEREST

The real party in interest is Digimarc Corporation, by an assignment from the inventors, recorded at Reel 10735, Frames 77-79, on April 3, 2000.

II. RELATED APPEALS AND INTERFERENCES

None.

III. STATUS OF CLAIMS

Claims 1-5, 18, 19 and 23-29 are rejected and appealed.

Claims 20-22 are allowed; claims 6-17 are canceled.

IV. STATUS OF AMENDMENTS

All earlier-filed amendments have been entered.

V. BACKGROUND AND SUMMARY OF CLAIMED SUBJECT MATTER

The proliferation of personal computer systems with good scanners and printers poses a serious threat of home-based counterfeiting of security documents, such as banknotes.¹ The present invention concerns methods for reducing this threat.²

Documentary evidence attached to this Brief, and discussed below, shows that the claimed subject matter has been adopted by the world's leading central banks to deter the counterfeiting of their currencies. Such evidence also indicates that leading technology companies, such as Hewlett-Packard, Adobe and Canon, have cooperated with these central

¹ See, e.g., specification, page 1, lines 21-22.

² See, e.g., specification, page 2, lines 2-7.

banks in worldwide deployment of the claimed arrangements. (Due to confidentiality constraints, the present assignee is limited in what it can reveal about its relationship with these central banks and technology companies – thus the reference to documents authored by others.³)

Counterfeit deterrence has two components. First, a computer system must be capable of recognizing a document image as that of a banknote. Second, the system must take an appropriate action responsive to attempted user-processing of such an image.⁴

As to the first component, there are various ways to recognize a document image as a banknote. One is to search the image for official seals and other visible hallmarks of a banknote. A different method – the one preferred by Appellants – is to analyze the suspect imagery for

³ Digimarc, the present assignee, conducted a public offering of its stock in 1999. To enable Digimarc to comply with SEC prospectus requirements, its central bank customers approved public disclosure of certain information about their relationship with Digimarc. Digimarc is obliged to keep other information confidential. Excerpts from Digimarc's stock prospectus (see <http://www.sec.gov/cgi-bin/srch-edgar>: Form S1/A filed by Digimarc on November 24, 1999) include the following:

- *Digimarc has been awarded a multi-year contract to develop a system to deter the use of personal computer systems in the counterfeiting of currency. The contract is funded by a consortium of leading central banks. The identities of the participating banks, design of the system and timetable for deployment are confidential. The central banks have acquired an exclusive license to Digimarc's technologies for deterring the counterfeiting of currency. Digimarc has retained the exclusive right to use the technologies developed for the system in other applications, subject to approval by the banks.*
- *In 1998, we began working with a consortium of leading central banks to develop a system to deter the use of personal computer systems in the counterfeiting of currency. Providing services relating to the development of this anti-counterfeiting system accounted for 51% of our total revenue in 1998 and 92% of our total revenue for the first nine months of 1999. This increase in the share of total revenue resulted from our securing a contractual relationship with the consortium. We anticipate that this development project will account for most of our revenue until we are able to generate substantial revenue from the introduction of new products that we are developing relating to document security and our Paper-as-Portal applications.*
- *[C]ounterfeiting constitutes a growing threat to the security of the world's currencies. The proliferation of high-resolution color copiers, scanners and printers, and increasingly powerful computers and image-processing software has made it possible for relatively unsophisticated users to produce counterfeit banknotes that pass as authentic in many environments. These developments have made casual counterfeiting a more attractive crime of opportunity, leading to a substantially increased burden on law agencies. In response to these threats, a number of leading central banks have decided to add new anti-counterfeiting features to their currencies using our digital watermarking technologies.*

A redacted version of Digimarc's contract with the consortium of central banks is attached as Exhibit 10.9 to the prospectus.

⁴ See, e.g., specification, page 1, lines 22-24; page 3, lines 17-18; page 14 (Abstract), lines 4-7.

information hidden as a digital watermark – information which has been introduced into banknote designs to permit compliant systems to electronically recognize such artwork as corresponding to a banknote.⁵

Digital watermark technology (also known as steganography) encompasses a great variety of techniques by which a digital data message (of one or many bits⁶) is hidden in some other object, without leaving human-apparent evidence of alteration or data representation. The present specification notes that one form of digital watermarking favored by the Appellants is to make subtle local changes to the luminance of a graphic to thereby encode a hidden auxiliary data payload.⁷ This can be done in various ways, such as by scattering fine droplets of ink through a region,⁸ or by designing a weave-like pattern of fine lines (a weave whose line weight, location, and spacing is tailored to form a desired luminance pattern) and using this pattern as background art on the banknote.⁹ The assignee's previous patent applications (which are incorporated by reference¹⁰) more fully detail these methods, as well as other methods (*e.g.*, techniques by which line art defining graphics, such as George Washington's face on the US \$1 bill, can be subtly altered to encode digital data). In all cases the banknote artwork looks essentially unchanged to a human viewer, but a suitably-programmed processor can decode the digital data payload from scanned image data, and trigger a corresponding response.

Documents to be protected against counterfeiting (*i.e.*, security documents, such as banknotes) are desirably encoded with a special digital watermark that is used *only* with such security documents.¹¹ Such hidden marking permits these document images to be distinguished (by compliant computer systems) from all others. In the present specification, the type of

⁵ See, *e.g.*, specification, page 2, line 8; page 14 (Abstract), lines 7-8.

⁶ See, *e.g.*, specification, page 4, lines 7-8.

⁷ See, *e.g.*, specification, page 4, lines 28-29; page 5, lines 8-11;

⁸ See, *e.g.*, specification, page 5, lines 7-11.

⁹ See, *e.g.*, specification, page 4, lines 22-27.

¹⁰ See, *e.g.*, reference to application 09/127,502 and others at page 1, line 7-15 of the present specification, and their incorporation-by-reference through language found at page 1, lines 17-18.

¹¹ See, *e.g.*, specification, page 2, lines 8-9.

watermark that is exclusively used with banknotes is termed an ACS (Anti-Counterfeiting System) watermark.¹²

The specification explains that detectors for ACS watermarks can be implemented at multiple points in a personal computer system, *e.g.*, in scanner hardware, scanner driver, operating system, image editing application, printer driver, printer hardware, internet browser, etc.¹³ Detection of an ACS watermark at any of these locations can trigger a counterfeit deterrence action.¹⁴

The second component of counterfeit deterrence – responding to detection of a banknote image – can take various forms. Example responses found in the prior art are typically mechanistic and are often punitive, such as simply interrupting processing, or scarring a copy (*e.g.*, by overprinting a “VOID” legend), or inserting forensic tracer data in the copy by which the user might be identified and prosecuted.¹⁵

Appellants’ claimed combinations involve different, more constructive, responses to detection of apparent banknote reproduction: (1) education, and/or (2) giving the user what they want (sort of).

The first response is to educate the user.¹⁶ Many people who try to reproduce banknotes using their home computer – often on a lark – have no idea of the gravity of the offense, and the harsh penalties that can result. Once informed of these consequences, casual experimenters will commonly discontinue their attempted actions.

Accordingly, one aspect of the invention is a method that includes – after recognizing a security document - responding by directing a web browser on the user’s computer to a web site related to the document¹⁷ (claim 1). Through this web site the user can learn the legal limitations on use of banknote imagery¹⁸ (*e.g.*, claim 19).

¹² *Ibid.*

¹³ See, *e.g.*, specification, page 3, lines 1-5; page 6, lines 4-8.

¹⁴ See, *e.g.*, specification, page 6, lines 11-20.

¹⁵ See, *e.g.*, patent 5,257,119.

¹⁶ See, *e.g.*, specification, page 7, lines 1-4; page 14 (Abstract), lines 5-6.

¹⁷ See, *e.g.*, specification, page 6, lines 11-20; page 7, lines 1-4; page 14 (Abstract), lines 5-6.

¹⁸ See, *e.g.*, specification, page 7, lines 2-3; page 14 (Abstract), lines 4-6.

Take, for example, a person who tries scanning a US \$20 bill, or a 20 Euro banknote, into Adobe Photoshop CS. According to published reports,¹⁹ such action will lead the Photoshop software to present a dialog box that directs the user to the web site www.rulesforuse.org,²⁰ as follows²¹:

This application does not support the unauthorized processing of banknote images.

For more information, select the information button below for Internet-based information on restrictions for copying and distributing banknote images or go to www.rulesforuse.org.

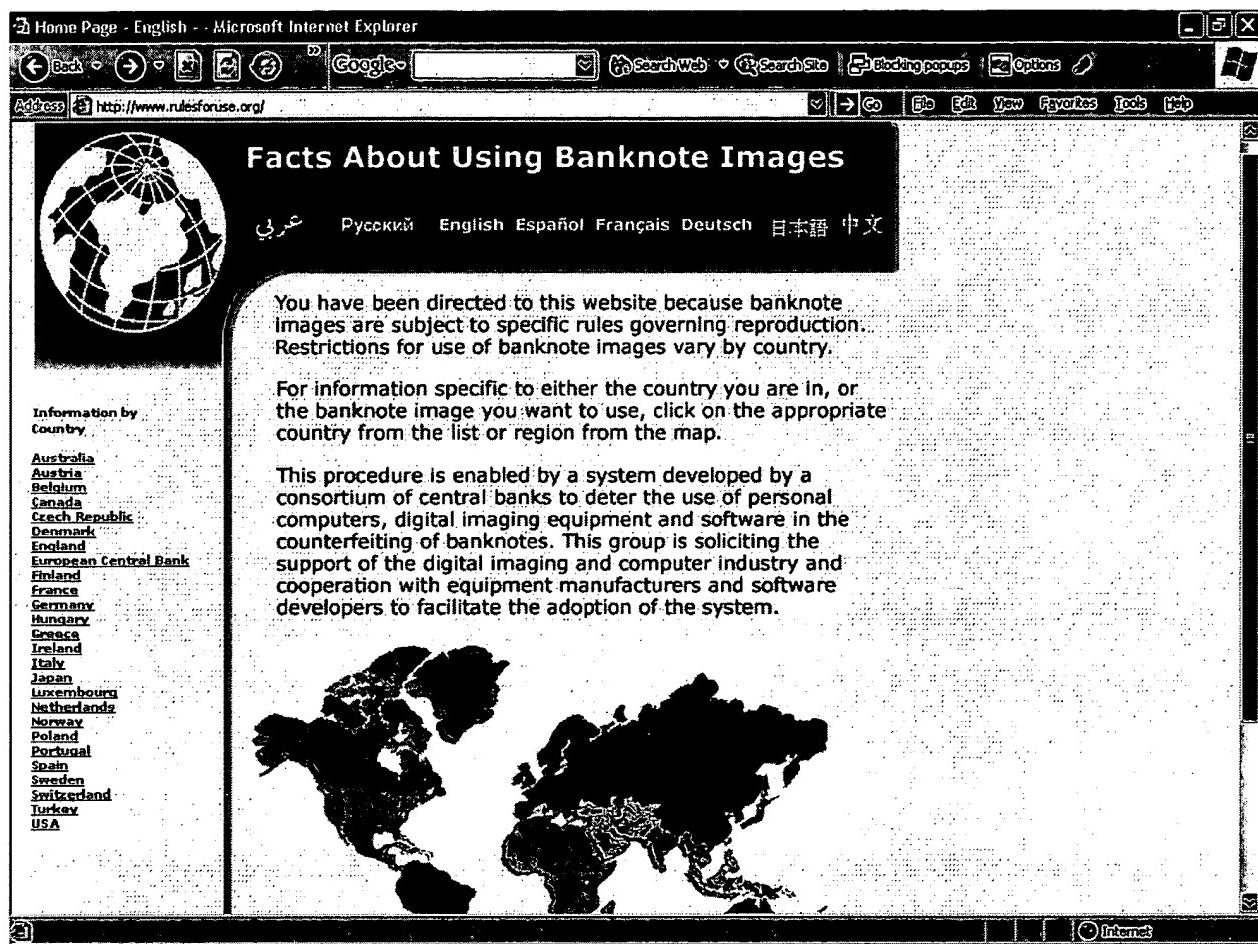
(Selecting the “information button” starts a web browser on the user’s computer and directs it to www.rulesforuse.org.)

The rulesforuse web site presents the following screen:

¹⁹ Various exhibits, discussed more fully below.

²⁰ Documentary evidence discussed below reveals that the proprietor of this domain registration is the European Central bank.

²¹ Exhibit S (4h), submitted to the PTO with the Amendment filed April 30, 2004, and attached to the original Appeal Brief as Exhibit S (4h).



From the country-specific links on the left side of the web page, the user can learn about permitted and forbidden uses of banknote imagery. The "USA" link, for example, directs the user to a Secret Service web page, which explains that color reproductions of US banknotes are permitted if the reproduction is smaller than 75% of actual size, or larger than 150% of actual size. This is in accordance with another aspect of the invention, which comprises recognizing a government-issued security document and, in response, contacting a web site that provides information concerning reproduction of the document²² (independent claim 18).

Appellants' second response to detection of a banknote, distinct from the educational aspects just reviewed, is to provide users what they want – sort of.

²² See, e.g., specification, page 7, lines 1-4.

Appellants recognized that some people who scan, process or print banknote imagery have rational, lawful reasons for doing so.²³ For example, such a person may be a graphic artist who is composing a magazine advertisement for a bank, and wants banknote artwork to be part of the ad layout. Or the user may simply be a student who wants a banknote image for use in a school project. Appellants recognized that these legitimate needs can be met by providing such users with substitute image artwork that not an *exact* reproduction of banknote artwork, but close enough for legitimate purposes.²⁴

Accordingly, a further aspect of certain of Appellants' claims is to provide such users with substitute image data that generally corresponds to the detected banknote (e.g., claims 2, 20 and 29).²⁵

Again, taking the example of a user who tries to scan a US \$20 into Adobe Photoshop CS, the user can click on the "USA" link on the www.rulesforuse.org page (reproduced above) to which Photoshop directs him, and from the resulting Secret Service web page click on a link saying:

For additional illustrations of U.S. Currency visit the [Bureau of Engraving and Printing](http://www.moneyfactory.com/newmoney/files/).

This Bureau of Engraving and Printing (BEP) web site has a link "U.S. Banknotes" to a gallery of front/back images of US banknotes, ranging from the US \$1 to the US \$100. Additionally, this BEP web site has a link "Anti-Counterfeiting" which links to a page illustrating new currency designs, providing higher resolution PDF files of the substitute US \$20 and US \$50 images (see, e.g., http://www.moneyfactory.com/newmoney/files/Bill_glossies_white.pdf). These substitute images include some minor differences from real banknote images, but are close enough to suffice for most legitimate purposes.

By these claimed arrangements, Appellants sought to deter the counterfeiting of banknote images by constructive approaches, rather than the mechanistic, and often punitive approaches of

²³ See, e.g., specification, page 2, lines 19-21.

²⁴ See, e.g., specification at page 2, lines 19-21; page 6, lines 18-24; page 14 (Abstract), lines 4-5.

²⁵ *Ibid.*

the prior art. The widespread adoption of such technology by the world's leading central banks and technology companies, as evidenced by the attachments, indicates that Appellants' approach has met with unusual commercial success.

(The Detailed Description portion of the specification totals nine pages; the Board is invited to review same in its entirety for additional understanding of the technology.)

VI. GROUNDS OF REJECTION

Claims 1-5, 18 and 27 now stand newly rejected as obvious over Funk (6,269,169) in view of Russell (5,905,248).

Claims 19, 23, 24, 28 and 29 now stand newly rejected as obvious over Funk and Russell, and further in view of Gruhl, *Information Hiding to Foil the Casual Counterfeiter*.

Claims 25-26 stand now stand newly rejected as obvious over Funk and Russell, and further in view of Witschorik (6,131,718).

VII. ARGUMENT

1. Review of Funk

Funk is the primary reference on which all of the rejections are based. His specification discloses a document reader and method useful, e.g., in determining whether an identity or value document is counterfeit, or has been altered.²⁶

Funk's preferred embodiment is a passport reader that begins its operation by looking for certain alphanumeric text information (e.g., country of issuance, issue date, name, birthdate, etc.) located in fixed "MRZ" fields on the document.²⁷ If expected text information is not found in the expected positions, the reader concludes that the document is not a passport.²⁸ In this case

²⁶ Funk, patent 6,269,169, Abstract.

²⁷ Funk, patent 6,269,169, col. 5, lines 30-42.

²⁸ Funk, patent 6,269,169, col. 9, lines 25-28, "By analyzing the information read in the expected position, at decision block 35 CPU 14 is able to determine if the document is a passport, or another type of document that includes an MRZ field, or it is not."

the device alerts the operator that the document is not in the library of documents that the reader is designed to read.²⁹ The reader discontinues further processing of the unknown document, reports the event to a central computer, and returns to its initial Start state.³⁰

If the reader identifies the document as being one within its library of capabilities, it then uses the sensed MRZ information to identify the particular type of document (e.g., the MRZ data may identify the document as a U.S. passport issued July 17, 1997). By reference to that information, the device can then consult stored information to determine what attributes or information should be stored on that particular document, and the position of such information.³¹ The device then looks for and reads such other information, e.g., extracting a portrait photograph from a known location on the U.S. passport.³²

Funk's device may transmit the information read from the passport to a central computer. By reference to this transmitted information, the central computer may provide original data pertaining to that passport back to Funk's device, so that an operator may compare the information found on the passport with the information that *should* be found on the passport (per the central computer).

2. Review of Russell

Russell is the secondary reference on which all of the rejections are based.

Russell discloses a barcode or magstripe reading system, in which reading of such data causes the system to execute a software applet (e.g., in JAVA³³) found at a web page. The barcode/magstripe (e.g., found in a magazine or on a product) indicates the URL of the web page where the applet is found.³⁴

²⁹ Funk, patent 6,269,169, col. 9, lines 43-37, "If CPU 14 determines that the document type is not in the library it branches to NO to the steps shown in FIG. 4C. In FIG. 4C at block 39 CPU sends an indication to the operator of reader/verifier 10 at display 21 that the document type is not in the library. In this case an indication to the operator via two line display 21 that the document type is not in the library."

³⁰ Funk, patent 6,269,169, col. 9, lines 53-56.

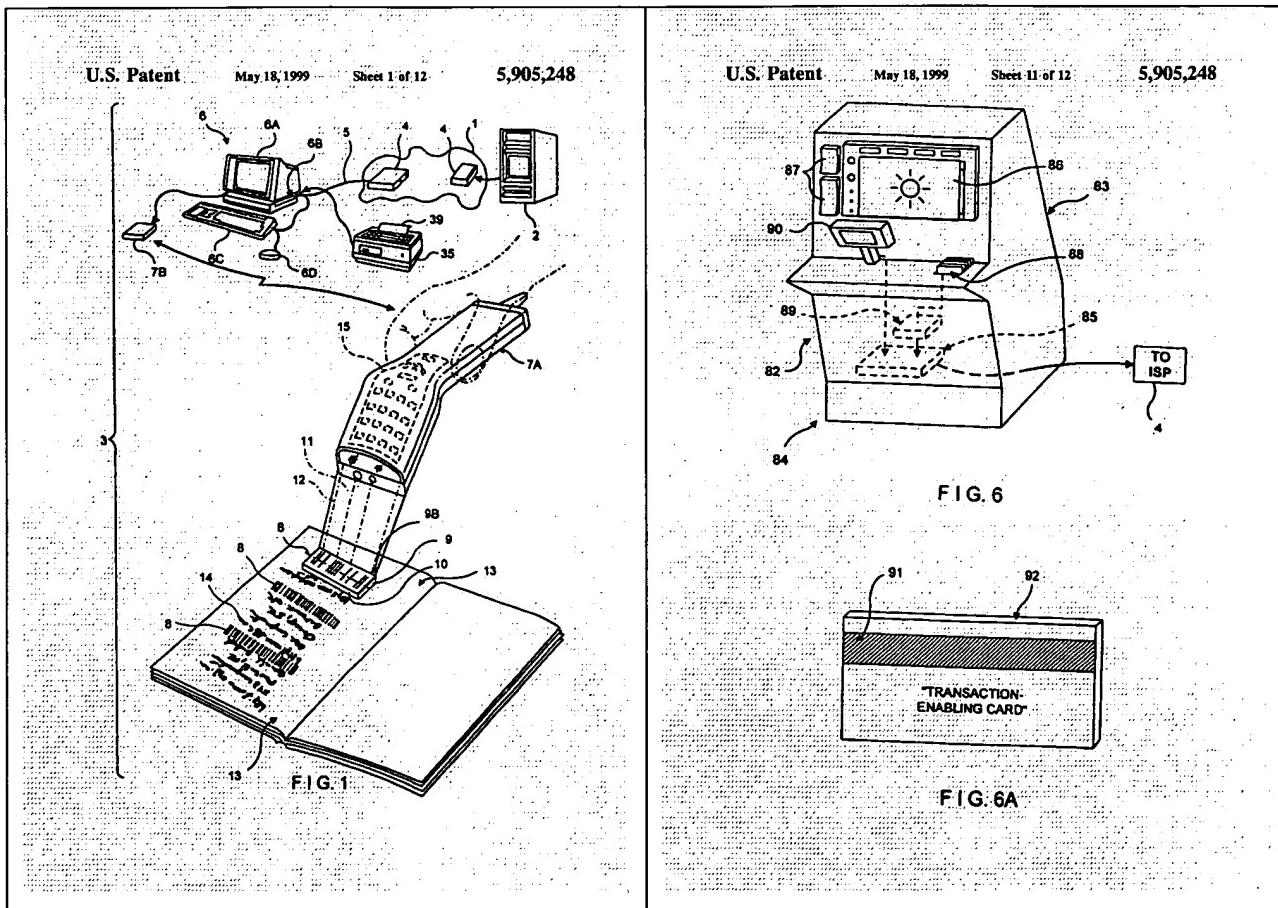
³¹ Funk, patent 6,269,169, col. 5, lines 51-56.

³² Funk, patent 6,269,169, col. 5, lines 62-66.

³³ Russell, patent 5,905,248, col. 6, line 39.

³⁴ Russell, patent 5,905,248, col. 2, lines 55-62.

A consumer equipped with such a reader system could use it to engage in commerce activities. For example, Russell's Fig. 1 (reproduced below) shows an "Internet Transaction Directory" (13) from which the user can scan different barcodes to, e.g., engage in a financial transaction or a ticket purchase.³⁵ His Fig. 6A (also reproduced below) shows a similar arrangement in which the URL is recorded on the mag stripe of a transaction card, such as a credit card.³⁶



The Office relies on Russell for its teaching of connecting to a web site using a web browser.³⁷

³⁵ Russell, patent 5,905,248, col. 20, lines 20-22.

³⁶ Russell, patent 5,905,248, col. 19, lines 25-28.

³⁷ August 29, 2005, Action, page 4, lines 10-11.

3. **Claim 1 (§ 103: Funk + Russell)**

Claim 1 reads:

1. *A method comprising recognizing a security document and, in response, directing a web browser to a web site related to the document.*

Funk admittedly teaches “recognizing a security document.” Russell admittedly teaches connecting to a web site using a web browser. However, the Action fails to establish *prima facie* obviousness.

The Action alleges:

It would have been obvious to one of ordinarily skilled in the art at the time of invention to combine the two references as they are analogous, because they are solving the similar problem of connecting to a web site to gain the information regarding the document read by the scanner.³⁸

Appellants respectfully submit that this statement is an unfair characterization. Only in hindsight could Funk and Russell be viewed as analogous. Funk concerns determining if a passport is counterfeit or altered, by reference to information sensed therefrom. Russell concerns launching transaction-enabling software applets in response to reading URL-encoded symbols from an item, e.g., for purchasing movie tickets. An artisan would find no motivation to combine these disparate references, absent impermissible hindsight.

The Action further cites Russell, col. 2, lines 34-39, as motivating the proposed combination. That passage states:

Thus, there is a great need in the art for an improved system and method of carrying out information-related transactions (as well as electronic commerce) over the Internet while avoiding the shortcomings and drawbacks of prior art systems and methodologies.

³⁸ August 29, 2005, Action, page 4, lines 12-15 (emphasis added).

It is not clear what in this passage would motivate an artisan to combine teachings from the references. The stated ambition of “an improved system and method of carrying out information-related transactions” urges improvements to an immense field of endeavor, but provides no specific suggestion relevant to Funk.

Because the Office has failed to satisfactorily explain why an artisan would have been led to combine the cited references, the rejection of claim 1 should be reversed.

4. Claim 2 (§ 103: Funk + Russell)

Claim 2 depends from claim 1, and is similarly allowable. Moreover, claim 2 is also independently patentable. The claim reads:

2. *The method of claim 1, further comprising presenting to a user a substitute image from the web site.*

(This claim is similar to claim 20, which has been allowed.)

The Office cites Funk at col. 6, lines 4-6 for this claim requirement.³⁹ However, that passage simply recounts that Funk’s system may transmit, from the central computer, a copy of the image that was originally printed on the identified passport. No “substitute” image is taught.

(For Appellants’ discussion of “substitute image,” the Board is referred to Appellants’ specification at page 6, lines 11-28, which explains (underlining added):

When a detector senses security document image data, it can intervene in various ways.. In one embodiment, the detector intervenes with a dialog box advising the user:

“This application does not support unauthorized <scanning, editing, printing, etc., as applicable> of controlled security documents. To obtain images for legitimate use, select ‘Get Image’ below, or go to www.imagedistribution.com.”

This dialog box includes a “Get Image” button that launches/directs a web browser resident on the computer to a web site authorized by the document issuer, from which substitute legitimate security document images are available for downloading. The substitute images appear -- on first inspection -- to be authentic security document images, and are sufficiently close to satisfy all legitimate uses for security document imagery (e.g. for use in advertising, etc.) but on closer inspection are evidently illegitimate (e.g. they may be low resolution, front-only, and

³⁹ August 29, 2005, Action, page 4, last two lines.

have certain key security features removed). Slightly different substitute images can be provided to each user (e.g. each image can have different tracking information embedded as a digital watermark). Registration and pre-authorization may be required for users who request the substitute images, and different security/authentication techniques can be employed to assure that accurate registration data is obtained.

Because the art – even if combined as proposed – does not meet the limitations of claim 2, the rejection thereof should be reversed.

5. **Claim 3 (§ 103: Funk + Russell)**

Claim 3 depends from claim 1, and is similarly allowable. Moreover, claim 3 is also independently patentable. The claim reads:

3. *The method of claim 1, further comprising presenting a user with supplemental information relating to the recognized security document, or to its permitted use, from the web site.*

The Action asserts that Funk teaches this limitation at col. 6, lines 6-10,⁴⁰ which excerpt states:

...display 24 to be manually or automatically compared with the alphanumeric and pictorial information read from the passport 11. In addition, even if the passport or other document 11 is determined not be altered or counterfeit, the identity of the bearer of the document 11 may be checked...

Contrary to the assertion in the Action, this passage is not understood to teach the limitation of claim 3.

Again, because the art – even if combined – cannot yield the combination of claim 3, the rejection thereof should be reversed.

⁴⁰ August 29, 2005, Action, sentence bridging pp. 4-5.

6. **Claim 4 (§ 103: Funk + Russell)**

Claim 4 depends from claim 1, and is similarly allowable. Moreover, claim 4 is also independently patentable. The claim reads:

4. The method of claim 1 that includes recognizing a security document by a digital watermark encoded therewith.

The Action urges that Funk's MRZ data comprises a "digital watermark."⁴¹ This is incorrect.

Funk teaches that the MRZ regions of a passport convey information in alphanumeric text format.⁴² Alphanumeric text is not a digital watermark.

As noted earlier, digital watermark technology (aka steganography) encompasses a great variety of techniques by which a digital data message (of one or many bits⁴³) is hidden in some other object, without leaving human-apparent evidence of alteration or data representation.

The present specification notes that one form of digital watermarking favored by the Appellants is to make subtle local changes to the luminance of a graphic to thereby encode a hidden auxiliary data payload.⁴⁴ This can be done in various ways, such as by scattering fine droplets of ink through a region,⁴⁵ or by designing a weave-like pattern of fine lines (a weave whose line weight, location, and spacing is tailored to form a desired luminance pattern) and using this pattern as background art on, e.g., a banknote.⁴⁶ The assignee's previous patent applications (which are incorporated by reference⁴⁷) more fully detail these methods, as well as other methods (e.g., techniques by which line art defining graphics, such as George Washington's face on the US \$1 bill, can be subtly altered to encode digital data). In all cases the artwork looks essentially unchanged to a human viewer, but a suitably-programmed

⁴¹ August 29, 2005, Action, page 5, lines 3-6.

⁴² Funk, patent 6,269,169, col. 5, lines 30-33.

⁴³ See, e.g., specification, page 4, lines 7-8.

⁴⁴ See, e.g., specification, page 4, lines 28-29; page 5, lines 8-11;

⁴⁵ See, e.g., specification, page 5, lines 7-11.

⁴⁶ See, e.g., specification, page 4, lines 22-27.

⁴⁷ See, e.g., reference to application 09/127,502 and others at page 1, line 7-15 of the present specification, and their incorporation-by-reference through language found at page 1, lines 17-18.

processor can decode the digital data payload from scanned image data, and trigger a corresponding response.

(In the later rejection of claim 28, the Office concedes that Funk does not teach steganographic data decoded using visible light.⁴⁸ Steganographic data is generally synonymous with digital watermark data.)

Again, the art does not teach that for which it has been cited, and the rejection of claim 4 should thus be reversed.

7. Claim 5 (§ 103: Funk + Russell)

The Funk + Russell rejection of claim 5 stands or falls with the Funk + Russell rejection of claim 1 (from which it depends).

8. Claim 18 (§ 103: Funk + Russell)

Claim 18 reads:

*18. An automated method comprising:
recognizing a government-issued security document; and
in response to recognition of such document, contacting a web site that provides
information concerning reproduction of the document.*

Claim 18 is said to be rejected “for the same reasons as set forth for the rejection of claim 1.”⁴⁹ However, claim 1 doesn’t require “contacting a web site that provides information concerning reproduction of the document.”

Supporting this claim limitation is Appellants’ disclosure at page 7, lines 1-4, which states:

⁴⁸ August 29, 2005, Action, page 6, lines 15-16.

⁴⁹ August 29, 2005, Action, page 5, lines 3-6.

The just-described web site additionally provides additional relevant information. For example, it can include warnings regarding counterfeiting and illegal reproduction of security documents, specific to that country. It can also provide guidelines for legitimate use of security document images (e.g. required size/color, required registration and pre-authorization, etc.).

Nothing in Funk or Russell concerns contacting a web site that provides information concerning reproduction of the document.

Again, the art fails to teach that for which it has been cited. Again, the rejection should be reversed.

9. Claim 27 (§ 103: Funk + Russell)

The Funk + Russell rejection of claim 27 stands or falls with the Funk + Russell rejection of claim 18 (from which it depends).

10. Review of Gruhl (“Information Hiding to Foil the Casual Counterfeiter”)

The Gruhl paper is cited as a tertiary reference in the obviousness rejections of claims 19, 23, 24, 28 and 29 (in combination with Funk and Russell).

Gruhl notes that information hiding techniques (steganography) can be employed to deter casual counterfeiting of banknotes.

11. Claim 19 (§ 103: Funk + Russell + Gruhl)

Claim 19 depends from claim 18 and is similarly allowable. Moreover, claim 19 is patentable independently. The claim reads:

19. The method of claim 18 in which the web site provides information about counterfeiting and penalties.

The Office alleges that Gruhl teaches this limitation, citing *endnotes* 11-13, found on page 15.⁵⁰ Gruhl does not teach this method limitation.

Like footnotes, the endnotes of the Gruhl article serve to document assertions made in the text of the article.

Gruhl's *Introduction* (page 1) states, "The U.S. Treasury Department took a multi-pronged approach to deal with this problem [of counterfeiting using color copiers]." This sentence then ends with the reference "[11, 12, 13]." These are the endnotes cited by the Action, and refer the reader to federal web sites *about* counterfeiting.

Gruhl does not suggest any *method* employing these web sites. Rather, these endnotes just point the *reader of the article* to federal writings about counterfeiting.

The claimed method requires, in response to recognition of a government-issued security document, contacting a web site that provides information about counterfeiting and penalties. Gruhl has no teaching of such a method.

Again, the art fails to teach that for which it has been cited, and the rejection of claim 19 should thus be reversed.

(Additionally, the rationale offered in support of the proposed combination of Funk, Russell and Gruhl evidences hindsight rather than obviousness. It states only, "One of ordinary skill would be motivated to look at Funk and Russell in light of Gruhl since the system of Funk is used to provide information regarding the document scanned."⁵¹)

12. Claim 23 (§ 103: Funk + Russell + Gruhl)

Claim 23 depends from claim 18 and is similarly allowable. Moreover, claim 23 is patentable independently. The claim reads:

23. *The method of claim 18 in which the web site provides guidelines for legitimate use of security document images.*

⁵⁰ August 29, 2005 Action, page 6, lines 2-3.

⁵¹ August 29, 2005, Action, page 6, lines 8-10.

In the embodiment described in Appellants' specification, recognition of a banknote directs the user to a web site explaining how a banknote image may be used *legitimately*. Appellants' specification notes:

The just-described web site additionally provides additional relevant information. For example, it can include warnings regarding counterfeiting and illegal reproduction of security documents, specific to that country. It can also provide guidelines for legitimate use of security document images (e.g. required size/color, required registration and pre-authorization, etc.)⁵²

Again, the Action cites Gruhl's *endnotes* as teaching the claim limitation.⁵³ Again, these endnotes do not relate to Gruhl's method of foiling casual counterfeiters, but rather inform the reader about other writings on the topic.

Again, the art fails to teach a method in which recognition of a government-issued security document results in contacting a web site, where the web site provides guidelines for legitimate use of security document images.

(The Action fails to offer any rationale in support of the proposed combination.)

Again, the Office has failed to establish *prima facie* obviousness.

13. Claim 24 (§ 103: Funk + Russell + Gruhl)

The Funk + Russell + Gruhl rejection of claim 24 stands or falls with the Funk + Russell rejection of claim 18 (from which it depends).

14. Claim 28 (§ 103: Funk + Russell + Gruhl)

Claim 28 depends from claim 18 and is similarly allowable. Moreover, claim 28 is patentable independently. The claim reads:

⁵² Specification, page 7, lines 1-4 (emphasis added).

⁵³ August 29, 2005, Action, page 6, lines 11-12.

28. The method of claim 18 wherein said recognizing includes decoding steganographically encoded data from visible light scan data corresponding to said document.

The Action proposes grafting the steganography teachings of Gruhl onto Funk and Russell. To support the proposed combination, the Action cites Funk, at col. 5, lines 42-50. That passage states:

This information may also be encrypted and placed in bar codes on documents, and used as a double check against visible information to verify that a document is not a forgery and/or has not been altered. In addition, laser readable material may be located under the laminating material which is written and readable alike a CDROM, but is written and read in rows, and may contain data visible elsewhere on the card or encoded fingerprints, eyeprints and other biometric information.

Appellants respectfully submit that this passage would not have led an artisan to the claimed arrangements. Encryption and bar coding are different than the claimed “decoding steganographically encoded data” and do not suggest same. (Rather, such passage explicitly directs an artisan to different technologies.)

The art fails to suggest the claimed arrangement; the rejection of claim 28 should be reversed.

15. Claim 29 (§ 103: Funk + Russell + Gruhl)

Claim 29 depends from claim 1 and is similarly allowable. Moreover, claim 29 is patentable independently. The claim reads:

29. The method of claim 1 that includes directing the web browser to a web site which informs a user that reproduction of the document is illegal, but offers substitute image data generally corresponding to said document.

The Office dismisses claim 29 with the single sentence:

Regarding Claim 29, arguments analogous to those presented for Claims 19, 23 and 28 are applicable to claim 29.

None of the art teaches directing a web browser to a web site informing a user that reproduction of the document is illegal. None of the art offers substitute image data generally corresponding to said document.

(A claim substantially commensurate with claim 29, namely independent claim 20, has already been allowed.)

Again, the rejection fails to establish *prima facie* obviousness, and should be reversed.

16. Review of Witschorik

Witschorik (6,131,718) is cited as a tertiary reference in the obviousness rejections of claims 25-26 (in combination with Funk and Russell).

Witschorik teaches a banknote having writable magnetic media on which the banknote's serial number and a security code are recorded. A currency scanning terminal located at a store or bank reads the recorded information from a banknote, relays it to a central security computer (e.g., over a phone line), and receives back a good/bad indication, together with an updated security code that the terminal writes to the banknote's magnetic media.

17. Claim 25 (§ 103: Funk + Russell + Witschorik)

Claim 25 depends from claim 18 and is similarly allowable. Moreover, claim 25 is patentable independently. The claim reads:

25. The method of claim 18 wherein said recognizing is performed by a scanner.

The Action asserts that Witschorik's "recognizing a government-issued security document" is performed by a scanner.⁵⁴

Not so. Witschorik's scanner reads magnetically-encoded information from an inputted document. The scanner does not perform banknote authentication (which the Action seems to equate with security document recognition). That is done by Witschorik's terminal, in conjunction with the security computer. Even the incorporation of OCR technology into the scanner (as suggested by Witschorik at col. 8, lines 4-6) does not meet the claim limitation, because the generation of OCR data – without more – does not constitute not "recognizing a government-issued security document."

In the claimed method, in contrast, the recognition of a security document is performed by "a scanner." Literally. Appellants' specification particularly notes that the ACS watermark detector (by which a security document is recognized in the preferred embodiment) can be implemented in various places, *i.e.*:

*The detector(s) can be deployed at various intervention points, including scanner hardware, scanner driver, operating system, image editing application, printer driver, printer hardware, internet browser, communications port, etc.*⁵⁵

Witschorik does not teach that for which the Action cites it. Accordingly, the obviousness rejection premised on such factual error fails. Again, reversal is required.

(Again, the rejection of claim 25 also fails for want of a satisfactory explanation as to why an artisan would modify and combine the three references in the manner required to yield the claimed arrangement. The Action's only rationale is "because they are solving the similar problem of connecting to a web site to gain the information regarding the document read by the scanner."⁵⁶ This statement doesn't explain why an artisan would have the act of "recognizing" be performed by the scanner itself.)

Again, the rejection of claim 25 fails to establish *prima facie* obviousness, and should be reversed.

⁵⁴ August 29, 2005, Action, page 7, lines 13-15.

⁵⁵ Specification, page 6, lines 6-8.

18. Claim 26 (§ 103: Funk + Russell + Witschorik)

Claim 26 depends from claim 25 and is similarly allowable. Moreover, claim 26 is patentable independently. The claim reads:

26. The method of claim 25 wherein said recognizing is performed by driver software in the scanner.

Again, the Examiner asserts that Witschorik teaches this limitation, citing col. 8, lines 4-6. Again, Witschorik does not so teach. The cited passage reads:

Incorporating an optical character recognition scanner into the currency scanning terminal 50 would also provide backup protection in the event that a bill's information is unreadable or communication cannot be established with the security computer 30.

No teaching of recognizing a security document by driver software in a scanner, as recited in the claim, is provided.

Again, Appellants' specification was explicit on this point:

An illustrative ACS mark detector is a software development kit (SDK) designed for integration into software applications and control software including image editing applications, TWAIN drivers, scanner device drivers, printer device drivers, and other intervention points.⁵⁷

Again, the art does not teach that for which the Action cites it. Again, reversal of the rejection of claim 26 is required.

⁵⁶ August 29, 2005, Action, page 7, lines 17-19.

⁵⁷ Specification, page 5, lines 24-26 (emphasis added).

VIII. COMMERCIAL SUCCESS

As demonstrated above, the August 29, 2005, Action failed to meet its *prima facie* burdens under § 103. However, even if the requirements of the statute had been met, the Office erred by failing to properly weigh the unprecedented commercial success achieved by certain of the claimed arrangements.

In particular, documentary evidence of record in this case indicates that the combinations of rejected claims, including independent claims 1 and 18, have achieved remarkable commercial success: they have been adopted by leading issuers of the world's currencies, in cooperation with major technology vendors such as Hewlett-Packard, Adobe and Canon.

The appealed-from Action correctly observes that commercial success must have a nexus with the claimed invention, and not be due, *e.g.*, to brand recognition. However, the Office went too far when it faulted Appellants for failing to provide a declaration from the European Central Bank, Hewlett-Packard, or Adobe concerning the invention.⁵⁸ And the Office was incorrect in stating "The declaration does not provide evidence of commercial success. . . . The declaration fails to establish the nexus."⁵⁹ The Exhibits establish the requisite nexus.

The organizations involved in currency anti-counterfeiting naturally are reticent to talk about this system. They have made one pronouncement on the topic, a brief press release in March, 2004 (attached as Exhibit W 4d), which stated:

In response to the threat of increasing use of personal computers and digital imaging tools in counterfeiting banknotes, the Governors of the G10⁶⁰ central banks authorised in May 2000 the development by a group of central banks of a system to deter PC-based counterfeiting. At their meeting in March 2004, the Governors took note of important progress in this area.

The Central Bank Counterfeit Deterrence Group (CBCDG) has now developed the Counterfeit Deterrence System consisting of anti-counterfeiting technologies which

⁵⁸ February 18, 2005, Action, page 2, lines 10-12.

⁵⁹ August 29, 2005, Action, page 2, lines 14, 20.

⁶⁰ The G10 central banks represent the world's largest economies. There are actually 11 countries in the group: the United States, Japan, Germany, Britain, France, Canada and Italy, plus Switzerland, Sweden, Belgium and the Netherlands. See Exhibit Y submitted to PTO with Appellants' April 30, 2004 Amendment, and attached hereto as Exhibit Y (4b).

prevent personal computers and digital imaging tools from capturing or reproducing the image of a protected banknote.

Several leading personal computer hardware and software manufacturers have voluntarily adopted the system in recognition of the harm that counterfeit currency can cause their customers and the general public. The technology does not have the capacity to track the use of a personal computer or digital imaging tool and consumers will not notice any difference in the performance or effectiveness of products equipped with this technology.

Further information is available on the website www.rulesforuse.org, which has links to the regulations of various countries governing the reproduction of banknotes. In countries where the new technology restricts a user's ability to copy images of banknotes, the central bank (or the appropriate authority) will make available banknote images for reproduction in accordance with its requirements. The www.rulesforuse.org website directs users to the procedures and sources of banknote images for countries where they are available.⁶¹

This statement helps establish the required nexus. It notes that the system is “to deter PC-based counterfeiting” of banknotes, and that “several leading personal computer hardware and software manufacturers have voluntarily adopted the system.” Such voluntary adoption of the system by such leading hardware and software manufacturers is an affirmation of the merits of the technology.

The MPEP counsels:

In considering evidence of commercial success, care should be taken to determine that the commercial success alleged is directly derived from the invention claimed, in a marketplace where the consumer is free to choose on the basis of objective principles, and that such success is not the result of heavy promotion or advertising, shift in advertising, consumption by purchasers normally tied to applicant or assignee, or other business events extraneous to the merits of the claimed invention, etc.

In the present case, the “consumers” are those who adopted the technology: the worlds’ leading central banks and technology companies. Such organizations have essentially unlimited resources with which to develop technology. These central banks and leading technology companies “were free to choose” or develop technology “on the basis of objective principles.”

⁶¹ Press release, “Central Banks and Technology Industry Join to Combat Banknote Counterfeiting,” March 9, 2004, published by the Bank of International Settlements, submitted to PTO as Exhibit W with Appellants’ April 30, 2004 Amendment, and attached hereto as Exhibit W (4d).

Their adoption of the claimed technology did not result from “heavy promotion or advertising” by the inventors or assignee (a company with 73 employees in November, 1999⁶²). Their adoption of Appellants’ technology did not derive from consumption by purchasers normally tied to Appellants or assignees. Their adoption of the technology did not derive from business events extraneous to the merits of the claimed invention.

Moreover, despite the brevity of the press release, it acknowledges many of the elements of Appellants’ claimed combinations. It notes the www.rulesforuse.org web site. It notes that this web site makes available regulations of various countries governing the reproduction of banknotes. It further notes that the web site directs users to sources of banknote images that can be reproduced in compliance with local laws.⁶³

Thus, the evidence of record establishes a nexus between the claimed invention and the commercial success.

The August 29, 2005, Action, alleged that the press release of March 2004 (reproduced above) does not point out the method as claimed.⁶⁴ But that press release was only one of more than a dozen Exhibits submitted to the Office. Taken as a group, the Exhibits clearly point out the claimed method. Consider claim 1. It reads:

1. A method comprising recognizing a security document and, in response, directing a web browser to a web site related to the document.

Starting with the first part of the method, i.e., the *recognizing* of a security document, consider Exhibit 2d. It supports this part of the claim, stating:

But the most interesting thing is that PSP8 [Paint Shop Pro 8] contains some optical recognition algorithms. I find that quite surprising in itself. The modern Bank of England notes are recognized, the older ones aren't.⁶⁵

⁶² Digimarc stock prospectus filed with the SEC on December 2, 1999. See S-1/A filing made by Digimarc at the SEC’s Edgar website, <http://www.sec.gov/edgar/searchedgar/companysearch.html>.

⁶³ Press release cited above at fn. 61.

⁶⁴ August 29, 2005, Action, page 2, last two lines.

⁶⁵ Emphasis added, here and *infra*.

Similarly, consider Exhibit 3d, which likewise supports this first part of the claim (i.e., *recognizing a security document*), and also supports the second part of the claim (i.e., *directing a web browser to a web site related to the document*):

The only hitch has been that when I tried to scan and print one of the new \$20 bills ... all I got is about a half-inch of beautiful color print and then a URL directing me to www.rulesforuse.org which tells about currency reproduction restrictions. Actually, this pretty impressive, considering that this relative inexpensive machine not only scans, prints, copies and faxes, it also has image-recognition software and/or firmware.

Still further, consider the article from *InformationWeek* (“World Banks Working to Stop Counterfeiting) submitted as Exhibit Y. That article again evidences the *recognizing a security document* part of claim 1, and also evidences tremendous commercial success:

Printer “drivers” – the software that makes printers work with PCs – recognize the code and refuse to print the complete image of a bill. That driver is included in almost 90 percent of the printers available today...

Also evidencing the *recognizing a security document* part of claim 1 (as well as evidencing commercial success) is the article from www.news.com (“Adobe, Others Slip Anticounterfeiting Code into Apps”) submitted as Exhibit X. It states:

Photoshop and other programs will no longer be able to open files containing images of several nations’ currencies, said Kevin Connor, director of product management for Adobe. The code to detect such images came from the Central Bank Counterfeit Deterrence Group, a low-profile association representing the national banks from Belgium, Canada, France, Germany, Italy, Japan, the Netherlands, Sweden, Switzerland, the United Kingdom and the United States. At the request of the group, Adobe and other software companies have inserted the functionality into their programs. ... The creator of the technology, Digimarc, confirmed that it had produced the code under contract to the banking group, but wouldn’t discuss any details..

Also evidencing the second part of claim 1 (i.e., *directing a web browser to a web site related to the document*) is Exhibit S (4h), which states that when Photoshop CS is used to open a file containing a digital image of a US \$20 bill, the computer responds:

This application does not support the unauthorized processing of banknote images. For more information, select the information button below for Internet-based information on restrictions for copying and distributing banknote images or go to www.rulesforuse.org.

Also evidencing the method of claim 1, and again evidencing commercial success, is the writing by Dr. Murdoch of Cambridge, submitted as Exhibit AA 5(a). That document, entitled *Software Detection of Currency*, states:

- *New image processing software incorporates code to prevent images of currency being processed*
- *Includes Adobe Photoshop, JASC Paintshop Pro, HP printer Drivers, Canon scanner software ...*
- *Code seems to have been produced by Digimarc, on behalf of the G10 Central Bank Counterfeit Deterrence Group (27 banks)*

Dr. Murdoch's presentation then gives a screen shot of the resulting link to the rulesforuse.org web site.

The foregoing is just a sampling. Other Exhibits likewise evidence the claimed methods,⁶⁶ and the tremendous commercial success that such technology has enjoyed. It was error for the Office to look to only a single Exhibit in adjudging whether a nexus between the success and the claimed invention had been shown.

Adobe did not announce inclusion of this anti-counterfeiting technology when it released its new version of Photoshop, *Photoshop CS*. However, when users started commenting that files containing images of the new U.S. \$20 bill and several Euro denominations could not be

⁶⁶ E.g., in connection with the "presenting a user with supplemental information relating to the recognized security document, or to its permitted use, from the web site," language found in claim 3, see the Exhibits detailing the information available through the www.rulesforuse.org web site, e.g., Exhibits 2c (re permitted use of Australian banknote images), and 3c (US Secret Service information about permitted uses of US currency images).

In connection with the "recognizing a government-issued security document" limitation of claim 18, see the Exhibits cited above in connection with "recognizing a security document."

In connection with the "in response to recognition of such document, contacting a web site that provides information concerning reproduction of the document" limitation of claim 18, see the Exhibits cited above in connection with "directing a web browser to a web site related to the document."

In connection with the limitation "the web site provides information about counterfeiting and penalties" found in claim 19, see Exhibit 3c (US Secret Service information about penalties for improper use of currency images).

opened, Adobe made a brief response.⁶⁷ A CNET article quoted an Adobe spokesman as acknowledging that they had incorporated software in Photoshop that prevents users from opening files containing images of several nations' currencies.⁶⁸ The spokesman noted, "*We are not the first software application to do this, but we are probably the largest.*" (The article reported similar functionality discovered in Paintshop Pro, which is marketed by Jasc, now Corel.⁶⁹)

In the CNET article, Digimarc is said to have confirmed that it had produced the code under contract to the banking group, but wouldn't discuss details. "*Due to the nature of the project, all the players and details are confidential*" said a Digimarc spokesperson.⁷⁰

The article about the system published by InformationWeek in March, 2004,⁷¹ reported that the system is based on "*special coding on banknotes, which currently is included only on major currencies.*" The article goes on to report:

*Printer "drivers" – the software that makes printers work with PCs – recognize the code and refuse to print the complete image of a bill. That driver is included in almost 90 percent of the printers available today, said the official, who spoke on condition of anonymity.*⁷²

Again, Appellants submit that deployment of the claimed technology in "almost 90 percent of the printers available today" is a measure of *remarkable* commercial success. The central banks which drove such deployment of the technology would not have done so if it did not have technical merit.

Exhibit A hereto is a Declaration establishing the authenticity of, and cataloging, all of the other submitted exhibits. It also briefly notes the contents of each. (For submission with this

⁶⁷ Statement by Adobe's Kevin O'Connor, published January 8, 2004 at www.adobeforums.com, submitted to PTO as Exhibit U with Appellants' April 30, 2004 Amendment, and attached hereto as Exhibit U (4f).

⁶⁸ "Adobe, Others Slip Anticounterfeiting Code into Apps," CNET News, January 9, 2004, submitted to PTO as Exhibit X with Appellants' April 30, 2004 Amendment, and attached hereto as Exhibit X (4c).

⁶⁹ *Ibid.*

⁷⁰ *Ibid.*

⁷¹ "World Banks Working to Stop Counterfeiting," InformationWeek, March 9, 2004, submitted to PTO as Exhibit Y with Appellants' April 30, 2004 Amendment, and attached hereto as Exhibit Y (4b).

⁷² *Ibid.*

Brief, these various Exhibits are identified by the paragraph and subparagraph in Exhibit A at which they are referenced. Additionally, they bear the Exhibit reference – if any – used when the document was originally submitted during prosecution. Thus, the CNET article identified at paragraph 4c of Exhibit A is labeled as Exhibit X (4c.). Among these Exhibits are:

- the www.rulesforuse.org web page⁷³ (reproduced also in the *Background and Summary of the Claimed Subject Matter* section of this brief);
- Network Solutions “whois” search results, showing that the rulesforuse.org domain is owned by the European Central Bank;⁷⁴
- the web page resulting when the ‘Australia’ link on the www.rulesforuse.org web page is clicked;⁷⁵ and
- the U.S. Secret Service web page resulting when the ‘USA’ link on the www.rulesforuse.org web page is clicked.⁷⁶

Interestingly, many of the Exhibits include reports of users who express indignation that hardware or software they purchased is limited in its functionality (*i.e.*, refusing to process banknote images). Exemplary is the comment “*This is insane ... Nobody, and certainly not software I pay for, should have any say of what sort of image I am allowed to open.*”⁷⁷

This sort of customer backlash is a significant cost incurred by those technology companies that have deployed the claimed anti-counterfeiting technology in their hardware and software. The Board may reasonably infer that these companies considered the possibility of such negative consumer sentiment before they decided to incorporate the technology in their products. If the technology was without technical merit, it is reasonable for the Board to conclude that these companies would have refused to deploy it on this basis. Thus, such widespread deployment of the technology in these circumstances by these leading technology companies should properly be construed as an affirmation of the merits of the technology.

⁷³ Exhibit 2A.

⁷⁴ Exhibit 2B.

⁷⁵ Exhibit 2C.

⁷⁶ Exhibit 3C.

⁷⁷ Exhibit X (4c).

Such commercial success enjoyed by the claimed technology, and the apparent nexus of such success to the technology's merits (rather than, *e.g.*, advertising, influence, etc.) properly rebuts any finding of *prima facie* obviousness.

IX. CONCLUSION

The rejections fail because the Office has not established *prima facie* obviousness. Moreover, even if the Office had made a *prima facie* showing of obviousness as to either of the rejected independent claims (1 and 18), the strong evidence of remarkable commercial success should rebut such showing. Accordingly, the Board is requested to reverse the outstanding rejections, and remand to the Examiner for issuance of a notice of allowance.

Date: November 29, 2005

CUSTOMER NUMBER 23735

Phone: 503-469-4800
FAX 503-469-4777

Respectfully submitted,

DIGIMARC CORPORATION

By _____

William Y. Conwell
Registration No. 31,943



APPENDIX A
PENDING CLAIMS

1. A method comprising recognizing a security document and, in response, directing a web browser to a web site related to the document.
 2. The method of claim 1, further comprising presenting to a user a substitute image from the web site.
 3. The method of claim 1, further comprising presenting a user with supplemental information relating to the recognized security document, or to its permitted use, from the web site.
 4. The method of claim 1 that includes recognizing a security document by a digital watermark encoded therewith.
 5. A computer storage medium having instructions stored thereon for causing a computer to perform the method of claim 1.
- 6-17. (Canceled)
18. An automated method comprising:
recognizing a government-issued security document; and
in response to recognition of such document, contacting a web site that provides information concerning reproduction of the document.
 19. The method of claim 18 in which the web site provides information about counterfeiting and penalties.

20. An automated method comprising:
recognizing a government-issued security document; and
in response to recognition of such document, contacting a web site that provides information concerning reproduction of the document, wherein the web site informs a user that reproduction of the document is illegal, but offers substitute image data generally corresponding to said document.
21. The method of claim 20 in which the substitute image data is encoded with tracking information.
22. The method of claim 20 in which the web site solicits user registration information before providing substitute image data.
23. The method of claim 18 in which the web site provides guidelines for legitimate use of security document images.
24. The method of claim 18 wherein the security document comprises a banknote.
25. The method of claim 18 wherein said recognizing is performed by a scanner.
26. The method of claim 25 wherein said recognizing is performed by driver software in the scanner.
27. The method of claim 18 wherein said recognizing is performed by a general purpose computer.
28. The method of claim 18 wherein said recognizing includes decoding steganographically encoded data from visible light scan data corresponding to said document.

29. The method of claim 1 that includes directing the web browser to a web site which informs a user that reproduction of the document is illegal, but offers substitute image data generally corresponding to said document.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

Rhoads et al.

Application No.: 09/465,418

Filed: December 16, 1999

For: COUNTERFEIT DETERRENCE
SYSTEM

Examiner: M. Dastouri

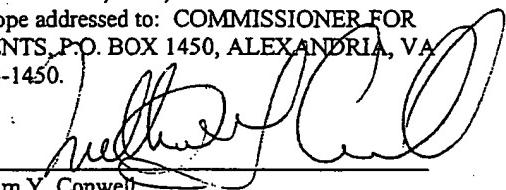
Date: November 12, 2004

Art Unit 2623

Confirmation No. 8844

CERTIFICATE OF MAILING

I hereby certify that this paper and the documents referred to as being attached or enclosed herewith are being deposited with the United States Postal Service on November 12, 2004, as First Class Mail in an envelope addressed to: COMMISSIONER FOR PATENTS, P.O. BOX 1450, ALEXANDRIA, VA 22313-1450.


William Y. Conwell
Attorney for Applicant

DECLARATION

I, William Y. Conwell, declare:

1. I am an attorney admitted to practice before the USPTO (Reg. No. 31,943), and represent the assignee Digimarc Corporation in connection with the captioned application.
2. I personally downloaded from the internet, and printed, the following documents, shortly before their submission to the USPTO with the Amendment After Final filed September 17, 2003 (mailed on August 19, 2003):
 - a. the www.rulesforuse.org home page (entitled "Facts About Using Banknote Images");
 - b. Network Solutions 'whois' search results, showing ownership of the rulesforuse.org domain by the European Central Bank;
 - c. Web page (entitled "Representations/Reproductions of Australian Currency Notes") resulting when the 'Australia' link on the www.rulesforuse.org web page is clicked (that resulting web page is <http://www.rba.gov.au/CurrencyNotes/LegalFramework/representation.htm>)

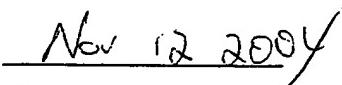
- ml and is published by the Reserve Bank of Australia, the central bank for that country;
- d. USENET posting with the subject "Bank Notes and PSP8" concerning linking to www.rulesforuse.org a banknote image is loaded in PaintShop Pro 8 (PSP8)
(<http://groups.google.com/groups?q=%22rulesforuse.org%22&hl=en&lr=&ie=UTF-8&oe=UTF-8&selm=yt7V4BAyUv7%2BEwtD%40braeburn.demon.co.uk&rnum=2>)
 - e. Web newspaper clipping entitled "Counterfeiting Tempting For Teens"
(<http://www.dailymail.com/news/Money/200305165/>)
3. I personally downloaded from the internet, and printed, the following documents, shortly before their submission to the USPTO with the Amendment Accompanying RCE filed October 27, 2003:
- a. Thread of 15 postings to internet discussion group (USENET) with the subject "New 20."
 - b. Posting to internet discussion group (USENET) with the subject "Scanner Recs Wanted" and listing J.S. Snow as author.
 - c. Web page "*Know Your Money*" published by the U.S. Secret Service and hosted by the U.S. Treasury with information about permitted uses of U.S. currency images (and penalties for improper use). This web page was displayed when the undersigned clicked on a "USA" link on the www.rulesforuse.org web page.
4. I personally downloaded from the internet, and printed, each of the following documents, shortly before their submission to the USPTO with the Amendment filed April 30, 2004:
- a. USENET posting with subject "*HP Printers and Currency Anti-Copying Measures,*" dated January 17, 2004 (Exhibit Z, 2 pages);
 - b. Article from InformationWeek entitled *World Banks Working to Stop Counterfeiting*, dated March 9, 2004 (Exhibit Y, 2 pages);

- c. Article from CNET News entitled *Adobe, Others Slip Anticounterfeiting Code Into Apps*, dated January 9, 2004 (Exhibit X, 2 pages);
 - d. Web press release from Bank of International Settlements entitled *Central Banks and Technology Industry Join to Combat Banknote Counterfeiting*, dated March 9, 2004 (Exhibit W, 2 pages);
 - e. Web page entitled *About BIS*, www.bis.org/about/index.htm, dated June 2003 (Exhibit V, 1 page);
 - f. Posting from www.adobeforums.com in thread entitled *No Wonder Photoshop CS Seems Slow – It's Analyzing Images for Content!* by Kevin Connor, dated January 8, 2004 (Exhibit U, 2 pages);
 - g. Web page entitled *Photoshop CS and CDS*, www.Adobe.com/products/photoshop/cds.html (Exhibit T, 1 page);
 - h. Web page entitled *Stop, You Counterfeiter*, www.genecowan.com/blog/archives/001039.html, dated January 8, 2004 (Exhibit S, 2 pages).
5. I personally downloaded from the internet, and printed, the following document, shortly before its submission to the USPTO with the Amendment After Final mailed November 12, 2004:
 - a. Presentation made to the 6th Information Hiding Workshop in May, 2004 by Steven J. Murdoch of the University of Cambridge, entitled “*Software Detection of Currency*,” dated May 23-25, 2004 (labeled Exhibit AA).
6. The above-identified documents submitted to the USPTO are true and accurate copies of what they purport to be. For each of those documents listing a header or footer referencing a web site, such listed web site is the one from which the document was actually downloaded.
7. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false

statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.



William Y. Conwell



Date



Facts About Using Banknote Images

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EXHIBIT 2a


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WHOIS SEARCH RESULTS

rulesforuse.org
[Back-order this name](#)

Registrant:
EUROPEAN CENTRAL BANK (RULESFORUSE3-DOM)
 Eurotower Kaiserstrasse 29
 FRANKFURT, FRANKFURT 160319
 DE

Domain Name: RULESFORUSE.ORG

Administrative Contact, Technical Contact:
EUROPEAN CENTRAL BANK (EC2410-ORG) no.valid.email@worldnic.net
 Eurotower Kaiserstrasse 29
 FRANKFURT, FRANKFURT 160319
 DE
 4969 13447439

Record expires on 21-Oct-2006.
 Record created on 22-Oct-1999.
 Database last updated on 19-Aug-2003 18:03:30 EDT.

Domain servers in listed order:

AUTH111.NS.UU.NET 198.6.1.115
 AUTH120.NS.UU.NET 198.6.1.154

[SEARCH AGAIN](#)
[People Search!](#)
[Find a Business Fast!](#)

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EXHIBIT 2b



RESERVE BANK OF AUSTRALIA

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REPRESENTATIONS/REPRODUCTIONS OF AUSTRALIAN CURRENCY NOTES

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Section 19 of the *Crimes (Currency) Act 1981* ("the Act") prohibits the designing, making, printing or distributing of representations of currency notes capable of misleading people to believe they are genuine currency notes, unless consent has been given by either the Reserve Bank or Treasury. As a general rule, such consent is not given on the grounds that representations that are capable of misleading should not be made. The legislation covers representations of all Australian currency notes, both present and past, as well as representations of foreign paper money and certain government and similar securities. The relevant extract from the Act is set out below.

Consent is not required for a representation that is not capable of misleading. However, the legislation places an obligation on those wanting to make the representation to ensure that it is not capable of misleading the public into believing it is a genuine currency note. It follows that, if representations are made, there may be risks for those involved. Unauthorised representations that mislead, or are considered capable of misleading, could be expected to bring severe penalties under the counterfeiting provisions of the Act. Voucher-style representations are of particular concern because sometimes they are produced very inappropriately in a format that is too close to the size of a real note and of a similar colour. The Reserve Bank will not give a view on whether a particular representation is likely or unlikely to mislead.

Whilst those wanting to make a representation may take the view that the final product does not contravene the Act, consideration should also be given to risks that can arise from items created during the process by which the final product will be achieved. Those making representations should ensure that items such as photocopies, photographic negatives and positives, and scanned images stored on optical disks, graphics files or other equipment are stored securely and not misused. There might be scope for these to be used to make further representations not connected with the intended final product. The Bank strongly recommends the destruction of all such items after final use.

Persons making reproductions of currency note designs should also be aware of the Copyright Amendment (Moral Rights) Act, which came into effect from 21 December 2000. This Act recognises certain rights of the designer, including the right not to have work altered in a prejudicial way, known as "right of integrity". This "right of integrity" is a right not to have the note subjected to derogatory treatment. Derogatory treatment would include doing anything that is prejudicial to the author's honour or reputation.

Section 16 of the Act also prohibits the defacing or destroying of Australian coin or currency notes unless consent has been given by either the Reserve Bank or Treasury. As a general rule, such consent is not given on the grounds that currency notes or coin should not be destroyed or defaced. The legislation covers all Australian currency notes, both present and past. See the relevant extract from the Act below.

Subject to Sections 16 and 19 of the *Crimes (Currency) Act 1981*, the Bank will generally not raise objections to the use of currency note reproductions in advertising or other material. Exceptions include reproductions relating to products that the public might perceive to be similar in nature to currency notes, eg credit/debit/phone/smart cards, etc.

If you are unsure of your position on any of the issues referred to above or on the correct interpretation of relevant legislation, we recommend you obtain legal advice.

EXTRACT FROM CRIMES (CURRENCY) ACT 1981

Defacing or destroying current coins or current paper money

16. A person shall not, without the consent, in writing, of an authorised person, wilfully deface, disfigure, mutilate or destroy any coin or paper money that is lawfully current in Australia.

Penalty:

EXHIBIT 2c

- (a) in the case of a person, not being a body corporate - \$5,000 or imprisonment for 2 years, or both; or
- (b) in the case of a person, being a body corporate - \$10,000.

Persons not to design, make, print or distribute material of certain kinds

19. A person shall not, without the consent, in writing, of an authorised person, design, make, print or distribute:
- (a) a business or professional card, notice, placard, circular, hand-bill, poster or other material that so resembles current paper money or an Australian prescribed security as to be capable of misleading a person into believing it is that current paper money or that Australian prescribed security; or
 - (b) a newspaper, journal, magazine, notice, placard, circular, hand-bill, poster, business or professional card or other material that includes a representation of current paper money or an Australian prescribed security that is, when detached from the newspaper, journal, magazine, notice, placard, circular, hand-bill, poster, business or professional card or other material in which it is included, capable of misleading a person into believing that it is that current paper money or that Australian prescribed security.

Penalty:

- (a) in the case of a person, not being a body corporate - \$5,000 or imprisonment for 2 years, or both; or
 - (b) in the case of a person, being a body corporate - \$10,000.
- (2) Where an authorised person gives a consent for the purposes of sub-section (1), he may give that consent either unconditionally or subject to such conditions as he thinks appropriate.
- (3) In this section, "Australian prescribed security" does not include a prescribed security, being a bond, debenture, stock, stock certificate, treasury bill or other like security, or a coupon, warrant or document for the payment of money in respect of such a security, issued by, or with the authority of, the government of a country other than Australia.

Import and export of certain material forbidden

20. A person shall not, without the consent, in writing, of an authorised person, import into Australia or export from Australia:
- (a) any business or professional card, notice, placard, circular, hand-bill, poster or other material of the kind referred to in paragraph 19(1)(a); or
 - (b) any newspaper, journal, magazine, notice, placard, circular, hand-bill, poster, business or professional card or other material of the kind referred to in paragraph 19(1)(b).

Penalty:

- (a) in the case of a person, not being a body corporate - \$5,000 or imprisonment for 2 years, or both; or
- (b) in the case of a person, being a body corporate - \$10,000."

Note: "Paper money" means money comprising a note written, printed or otherwise made on paper or any other material.

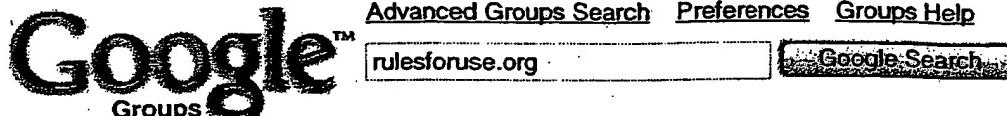
Paper money shall be taken to be current paper money if it is lawfully current in Australia or in a country other than Australia by virtue of a law in force in Australia or in that country, as the case may be.

All Australian notes, of both present and all past issues, are lawfully current in Australia.

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Groups search result 2 for rulesforuse.org

- [Paint Shop Pro 8 - \\$59.99](#) • After Rebate. Great photo editor. Free shipping! (Assoc) • WWW.amazon.com
- [Paint Shop Pro 8 - \\$49.99](#) • Jasc Paint Shop Pro 8 only \$49.99 after rebate. Free shipping. affil • WWW.amazon.com
- [Jasc Paint Shop Pro 8.0](#) • Buy this image editing software for only 49.99 after rebate. Affiliate. • WWW.amazon.com

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From: [Bernard Hill \(bernard@braeburn.co.uk\)](#)

Search Result 2

Subject: Bank notes and PSP8

Newsgroups: [comp.graphics.apps.paint-shop-pro](#)

This is the only article in this thread

Date: 2003-06-17 04:02:36 PST

[View: Original Format](#)

I discovered something to my surprise yesterday.

I am fascinated by money. Not only in the usual sense, but also in a currency sense and purely for my own interest for some years I have been keeping scans of various UK bank notes on my computer.

I have not been printing these nor using them in any way, they come up full-screen in my screen saver :-)

I can Browse them OK in PSP8, but when I try to load some of them I get this message:

"This application does not support the unauthorised processing of banknote images. For more information, select the information button below for internet-based information on restrictions for copying and distributing banknote images or go to www.rulesforuse.org"

Fascinating!

However:

- a) for England, at least, as long as I do not print these images I am apparently within the law.
- b) Scotland is not mentioned.
- c) Assuming I register for use PSP8 will still not allow me to edit or print the image.

But the most interesting thing is that PSP8 contains some optical recognition algorithms. I find that quite surprising in itself.

The modern Bank of England notes are recognised, the older ones aren't and none of the 3 Banks of Scotland notes are recognised.

Bernard Hill
 Braeburn Software
 Author of Music Publisher system
 Music Software written by musicians for musicians
<http://www.braeburn.co.uk>
 Selkirk, Scotland

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EXHIBIT 2d

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Charleston Daily Mail

Photos/Graphics: • [Secret Service agent inspects bill](#)

[◀ more Money](#)

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Counterfeiting tempting for teens

Local case a reminder for parents to discuss issue

Chris Stirewalt <cstire@dailymail.com>

Daily Mail Staff

Friday May 16, 2003; 11:00 AM

Many parents were shocked recently when a George Washington High School student was accused of making counterfeit money and trying to pass it off to a pizza delivery driver.

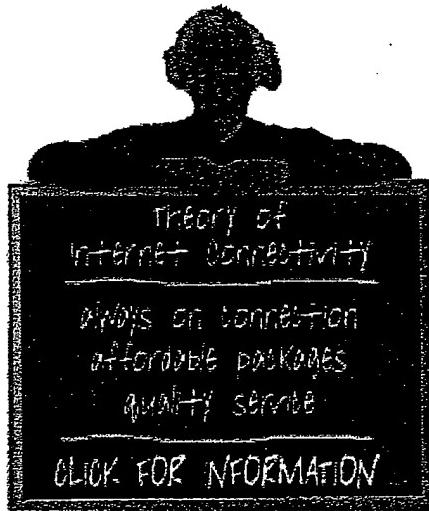
But local Secret Service agents say that nearly half of all counterfeit money is made on computers and that many kids succumb to the temptation of their computer skills to make phony bills. Agents say parents are usually the last ones to know that this illegal activity is going on.

"Many times it ends up with a bad scene when we have to go knock on their door and tell the parents what's been going on," said Matt Rugh, the resident agent in charge of the Secret Service's Charleston office. "The parents' response is often total disbelief."

"They can't imagine that their child would be involved in anything like that, but when we go up into the child's bedroom and there is the image of the bill still on the computer they see what's been going on."

Officials have not said what method the George Washington students used to make money.

Rugh said that probably 40 percent of all counterfeit money in West Virginia is computer generated -- mostly from ink jet printers and color copiers. A substantial portion of that funny money comes from juveniles, he said.



Rugh said that many counterfeiting crimes arise out of curiosity, with normally law-abiding people wondering if it were possible to make a bogus bill.

"There is a great deal of temptation for people. They have access to this technology and it may seem like what you're doing on your computer is separate from reality," Rugh said. "But once you undertake to make a counterfeit bill, you've crossed a very serious line."

Much of the counterfeit money being circulated is made the traditional way by career criminals. It is printed on a press using basic technology. But Rugh said that an increasing percentage is homemade.

Every month, the Charleston Resident Office takes in somewhere between \$2,000 and \$3,000 in fake currency from all over the state. While Rugh acknowledges that the money seized is only a fraction of all the bum bills being passed, he says that the currency supply is not badly tainted.

"We're talking about an extremely small percentage of the total number of bills," Rugh said. "Nationally, we're talking about maybe one or two out of every 10,000."

But the way the Secret Service and federal prosecutors are able to keep the numbers low is by taking each case seriously.

While Rugh said that juvenile counterfeiters aren't prosecuted in federal court, he and his agents work closely with state officials to make sure they have the evidence they need to win convictions. The suspect's computer would most likely be seized and face close scrutiny if another investigation pointed back to them.

"For juveniles and smaller offenders -- a couple of hundred dollars -- we turn to the local authorities for help," Rugh said. "The U.S. Attorney's office is going to focus on larger offenses, but we can and do work with local agencies to help build cases."

Those who face federal prosecution can face prison terms of up to 20 years.

Rugh said the rollout of a new \$20 bill this week with added security highlights how individuals can help stop counterfeiting. Clerks, bartenders, cashiers and bank tellers all need to know how to tell real money from fake.

The security strip on the left hand side of the bill, the watermark that can be seen when a bill is held up to the light, the detail of the printing and special paper all denote a real bill. The new \$20 bill also has some subtle color differences to make reproduction harder.

Much of the counterfeit money that came into the local office in the last month had none of the special characteristics, but still managed to get passed.

Bills made with inkjet printers, the kind most often turned out by home counterfeiters, are detectable by the subtle spray pattern all over the bill. Instead of the ink lines being crisp, there are minute droplets of colored ink all over the note.

"Part of our job is to inform people about what to be looking for in the bills," Rugh said. "The way people most often get caught is when a clerk or someone else takes the time to look for the security features."

Rugh said that it's up to parents to talk to their computer-savvy children about counterfeiting.

"It's something very serious that parents may not think about and juveniles may not understand," Rugh said. "You've got to be aware of what's going on and lay it all on the table for your kids."

Writer Chris Stirewalt can be reached at 348-4824.

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Messages 1-10 from thread

[Next 5](#)[Jump to \[End of thread \]](#)

From: Anthony Myers 22 (anthonymyers22@wmconnect.com)
Subject: new 20
Newsgroups: [alt.fan.cecil-adams](#)
Date: 2003-10-18 21:55:02 PST

Message 1 in thread

[View this article only](#)

You can't scan, open, paste or create any type of image file that has the new 20 dollar bill in it in Paint Shop Pro. How does it know?

.....
"I've seen the Masturbating Bear, and I freely admit I found it rather unsophisticated humor, and didn't enjoy it much."

[Post a follow-up to this message](#)

From: James Gifford (jgifford@surewest.net)
Subject: Re: new 20
Newsgroups: [alt.fan.cecil-adams](#)
Date: 2003-10-18 22:08:15 PST

Message 2 in thread

[View this article only](#)

Anthony Myers 22 wrote:

> You can't scan, open, paste or create any type of image file that has the new
> 20 dollar bill in it in Paint Shop Pro. How does it know?

Have you asked the Secret Service?

--

| James Gifford * FIX SPAMTRAP TO REPLY
| So... your philosophy fits in a sig, does it?
| Heinlein stuff at: www.nitrosyncretic.com/rah

[Post a follow-up to this message](#)

From: Lots42 The Library Avenger (lots42@aol.com)
Subject: Re: new 20
Newsgroups: [alt.fan.cecil-adams](#)
Date: 2003-10-19 07:20:02 PST

Message 3 in thread

[View this article only](#)

>Anthony Myers 22 wrote:

>> You can't scan, open, paste or create any type of image file that has the new
>> 20 dollar bill in it in Paint Shop Pro. How does it know?

Maybe the answer is that Paint Shop Pro is crap

[Post a follow-up to this message](#)

From: Blinky the Shark (no.spam@box.invalid)
Subject: Re: new 20

Message 4 in thread

<http://groups.google.com/groups?hl=en&lr=&ie=UTF-8&oe=UTF-8&frame=right&th=a...> 10/22/2003

Newsgroups: alt.fan.cecil-adams
Date: 2003-10-19 11:35:19 PST

[View this article only](#)

Lots42 The Library Avenger wrote:

>>Anthony Myers 22 wrote:
>>> You can't scan, open, paste or create any type of image file that has the new
>>> 20 dollar bill in it in Paint Shop Pro. How does it know?
> Maybe the answer is that Paint Shop Pro is crap

Wasn't through release 5, which I've used extensively.

I can't help but wonder bout the original premise.

--
Blinky Linux RU 297263
NEW 9/25/03:
MS Class Action Award Vouchers for California Residents
Detail --> http://snurl.com/settlement

Post a follow-up to this message

From: John Hatpin (nospam@brookview.karoo.co.uk)
Subject: Re: new 20

Message 5 in thread

Subject: Re: New Z
Newsgroups: [alt.fan.cecil-adams](#)
Date: 2003-10-19 17:12:16 PST

[View this article online](#)

Blinky the Shark wrote:

>Lots42 The Library Avenger wrote:

2

>>>Anthony Myers 22 wrote:

>>> You can't scan, open, paste or create any type of image file that has the new
>>> 20 dollar bill in it in Paint Shop Pro. How does it know?

>> Maybe the answer is that Paint Shop Pro is crap

2

>Wasn't through release 5, which I've used extensively.

2

>I can't help but wonder bout the original premise.

PSP is pretty dammed good. Not as good as Photoshop, but then what is?

I suspect that Lots42 has an agenda here regarding PSP. Maybe he'll be nice and kind and share it with us.

--
John Hatpin

Post a follow-up to this message

From: Blinky the Shark (no.spam@box.invalid)
Subject: Re: new 20
Newsgroups: alt.fan.cecil-adams
Date: 2003-10-19 17:35:12 PST

Message 6 in thread

[View this article only](#)

John Hatpin wrote:

> Blinky the Shark wrote:
>>Lots42 The Library Avenger wrote:
>>>Anthony Myers 22 wrote:
>>>> You can't scan, open, paste or create any type of image file that has the new
>>>> 20 dollar bill in it in Paint Shop Pro. How does it know?
>>> Maybe the answer is that Paint Shop Pro is crap
>>Wasn't through release 5, which I've used extensively.
>>I can't help but wonder bout the original premise.
> PSP is pretty damned good. Not as good as Photoshop, but then what
> is?

I used it for years, without problems. I'm using The GIMP, now, of course.

--
Blinky Linux RU 297263
NEW 9/25/03:
MS Class Action Award Vouchers for California Residents
Detail --> http://snurl.com/settlement

Post a follow-up to this message

From: John Hatpin (nospam@brookview.karoo.co.uk)
Subject: Re: new 20
Newsgroups: [alt.fan.cecil-adams](#)
Date: 2003-10-19 17:53:08 PST

Message 7 in thread

[View this article online](#)

Blinky the Shark wrote:

>John Hatpin wrote:
>
>> Blinky the Shark wrote:
>>>Lots42 The Library Avenger wrote:
>>>>Anthony Myers 22 wrote:
>>>>> You can't scan, open, paste or create any type of image file that has the new
>>>>> 20 dollar bill in it in Paint Shop Pro. How does it know?
>>>> Maybe the answer is that Paint Shop Pro is crap
>>>Wasn't through release 5, which I've used extensively.
>>I can't help but wonder bout the original premise.
>> PSP is pretty damned good. Not as good as Photoshop, but then what
>> is?
>
>I used it for years, without problems. I'm using The GIMP, now, of
>course.

Of course. What's it like, in comparison? I notice there's a GIMP for Windows, which might be worth trying.

It might help the inevitable transition period, too. M\$ are going to be relegated here to the jobs they do best: keyboards, mouses and joysticks.

John Hatpin

Post a follow-up to this message

From: Blinky the Shark (no.spam@box.invalid)
Subject: Re: new 20
Newsgroups: <alt.fan.cecil-adams>
Date: 2003-10-19 19:35:08 PST

Message 8 in thread

[View this article only](#)

John Hatpin wrote:

> Blinky the Shark wrote:
>>John Hatpin wrote:
>>> Blinky the Shark wrote:
>>>>Lots42 The Library Avenger wrote:
>>>>>Anthony Myers 22 wrote:
>>>>>> You can't scan, open, paste or create any type of image file
>>>>> that has the new
>>>>>> 20 dollar bill in it in Paint Shop Pro. How does it know?
>>>> Maybe the answer is that Paint Shop Pro is crap
>>>>Wasn't through release 5, which I've used extensively.
>>>I can't help but wonder bout the original premise.
>> PSP is pretty damned good. Not as good as Photoshop, but then what
>> is?
>>I used it for years, without problems. I'm using The GIMP, now, of
>>course.
> Of course. What's it like, in comparison? I notice there's a GIMP
> for Windows, which might be worth trying.

I don't put any of them to full use, as my needs are relatively simple. But The GIMP is more capable overall, because, for example, it allows scripting. This can combine a lot of operations into one action. For instance, this was created by running a script -- by selecting a single gif (rectangular, and my old site logo) and through the GUI saying "make it a spinning globe" (with X width and Y height)...

Animation on for:

<http://blinky.net/stuff/spin.gif>

You might find the program interesting. If you have any spare time that you don't mind devoting to the screen, check it out.

--
Blinky Linux RU 297263
NEW 9/25/03:
MS Class Action Award Vouchers for California Residents
Detail --> http://snurl.com/settlement

Post a follow-up to this message.

From: John Hatpin (nospam@brockview.karoo.co.uk)
Subject: Re: new 20
Newsgroups: [alt.fan.cecil-adams](#)
Date: 2003-10-21 15:38:22 PST

Message 9 in thread

View this article only

Blinky the Shark wrote:

<http://groups.google.com/groups?hl=en&lr=&ie=UTF-8&oe=UTF-8&frame=right&th=a...> 10/22/2003

>John Hatpin wrote:
>
>> Blinky the Shark wrote: [...]
>>>I used it for years, without problems. I'm using The GIMP, now, of
>>>course.
>> Of course. What's it like, in comparison? I notice there's a GIMP
>> for Windows, which might be worth trying.
>
>I don't put any of them to full use, as my needs are relatively simple.
>But The GIMP is more capable overall, because, for example, it allows
>scripting. This can combine a lot of operations into one action. For
>instance, this was created by running a script -- by selecting a single
>gif (rectangular, and my old site logo) and through the GUI saying "make
>it a spinning globe" (with X width and Y height)...
>
>Animation on for:
>
><http://blinkynet.net/stuff/spin.gif>
>
>You might find the program interesting. If you have any spare time that
>you don't mind devoting to the screen, check it out.

Thanks, Blinky. I'll certainly give GIMP a good try, just as soon as I've got Python and Boa Constructor sorted out. Anything that eases the inevitable transition to Linux has to be good.

Open Sores is definitely the way to go.

--
John Hatpin

Post a follow-up to this message

From: Blinky the Shark (no.spam@box.invalid)
Subject: Re: new 20
Newsgroups: alt.fan.cecil-adams
Date: 2003-10-21 19:05:50 PST

Message 10 in thread

[View this article online](#)

John Hatpin wrote:

> Thanks, Blinky. I'll certainly give GIMP a good try, just as soon as
> I've got Python and Boa Constructor sorted out. Anything that eases
> the inevitable transition to Linux has to be good.

The UI will take some getting used to. But explore, explore, explore. [1]

And here's a bible you might want to bookmark for future ref:

<http://qimpo-savvy.com/BOOK/>

[1] Have fun with the script-fu stuff!

--
Blinky Linux RU 297263
NEW 9/25/03:
MS Class Action Award Vouchers for California Residents
Detail --> http://smurl.com/settlement

<http://groups.google.com/groups?hl=en&lr=&ie=UTF-8&oe=UTF-8&frame=right&th=a...> 10/22/2003

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Messages 11-15 from thread

[Prev 10](#)[Jump to \[Start of thread \]](#)

From: Jason Quick (jsquick@hotmail.com)
Subject: Re: new 20
Newsgroups: [alt.fan.cecil-adams](#)
Date: 2003-10-19 22:41:02 PST

Message 11 in thread

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"John Hatpin" <nospam@brookview.karoo.co.uk> wrote

> Of course. What's it like, in comparison? I notice there's a GIMP
> for Windows, which might be worth trying.

I suppose I could spend a bunch of time figuring this out on my own, but...

What's up with GIMP? Someone wanna give me a rundown on why it's so great?

Jason (tired of PSP and PS) Q.

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From: Blinky the Shark (no.spam@box.invalid)
Subject: Re: new 20
Newsgroups: [alt.fan.cecil-adams](#)
Date: 2003-10-20 11:50:27 PST

Message 12 in thread

[View this article only](#)

Jason Quick wrote:

> "John Hatpin" <nospam@brookview.karoo.co.uk> wrote
>> Of course. What's it like, in comparison? I notice there's a GIMP
>> for Windows, which might be worth trying.
> I suppose I could spend a bunch of time figuring this out on my own, but...

<http://gimp-savvy.com/BOOK/index.html>

> What's up with GIMP? Someone wanna give me a rundown on why it's so great?

Best answers probably here: [comp.graphics.apps.gimp](#)

--
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[Post a follow-up to this message](#)

From: Anthony Myers 22 (anthonymyers22@wmconnect.com)
Subject: Re: new 20
Newsgroups: [alt.fan.cecil-adams](#)
Date: 2003-10-19 17:40:12 PST

Message 13 in thread

[View this article only](#)

>>Wasn't through release 5, which I've used extensively.
>>

<http://groups.google.com/groups?hl=en&lr=&ie=UTF-8&oe=UTF-8&frame=right&th=a...> 10/22/2003

There's a learning curve to it. It can do much more than 99.99999% of the users will ever want to do, and that can get in the way. But after a month or so of playing with it I can figure out how to do pretty much whatever I want to with it

.....
"I've seen the Masturbating Bear, and I freely admit I found it rather unsophisticated humor, and didn't enjoy it much."

[Post a follow-up to this message](#)

From: Anthony Myers 22 (anthonymyers22@wmconnect.com)

[Message 14 in thread](#)

Subject: Re: new 20

Newsgroups: [alt.fan.cecil-adams](#)

Date: 2003-10-19 12:03:50 PST

[View this article only](#)

>Maybe from the color?

I changed it to grayscale (in another program) and tried to paste it as a new selection in a blank image, and it still wouldn't


. >8 will redirect you to
<http://www.rulesforuse.org/> if the picture is high-res enough. >>

It's not too picky. I tried a scan of a photocopy and it still didn't work.

>You can get around the limitations by using only a small sliver of the
>bill at a time, and merging them afterwards. Perhaps the thing will
>trigger eventually?

I suspect it has something to do with the borders. I managed to get most of Jackson's face to work, but most anything else bigger than about one square cm triggers the error message

.....
"I've seen the Masturbating Bear, and I freely admit I found it rather unsophisticated humor, and didn't enjoy it much."

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From: groo (groo@groo.org)

[Message 15 in thread](#)

Subject: Re: new 20

Newsgroups: [alt.fan.cecil-adams](#)

Date: 2003-10-21 11:08:06 PST

[View this article only](#)

Anthony Myers 22 wrote:

> I suspect it has something to do with the borders. I managed to get most of
> Jackson's face to work, but most anything else bigger than about one square cm
> triggers the error message
>
> "I've seen the Masturbating Bear, and I freely admit I found it rather
> unsophisticated humor, and didn't enjoy it much."

That is an error message worthy of Microsoft.

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rulesforuse

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Groups search result 1 for rulesforuse

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Search Result 1

Subject: Re: Scanner recs wanted

Newsgroups: [rec.crafts.metalworking](#)View: [Complete Thread \(5 articles\)](#)

Date: 2003-10-20 12:06:39 PST

[Original Format](#)

I've been using an Agfa Snapscan 1212U for about three years at work, and we just got a cheapie HP on another computer. I have an HP 6110 multifunction printer at home which includes a scanner. All work quite well for all of our needs.

The only hitch has been that when I tried to scan and print one of the new \$20 bills (the one with MY name on it!) all I got is about a half-inch of beautiful color print and then a URL directing me to www.rulesforuse.org which tells about currency reproduction restrictions. Actually, this is pretty impressive, considering that this relatively inexpensive machine not only scans, prints, copies, and faxes, it also has image-recognition software and/or firmware!

I'm still trying to figure out how to get a nice color blowup of my money. Kinko's won't do it. My printer won't do it. I'm way too cheap to have an 8x10 print made. What to do, what to do

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EXHIBIT 3b

United States Secret Service

WWW.SECRETSERVICE.GOV

KNOW YOUR MONEY

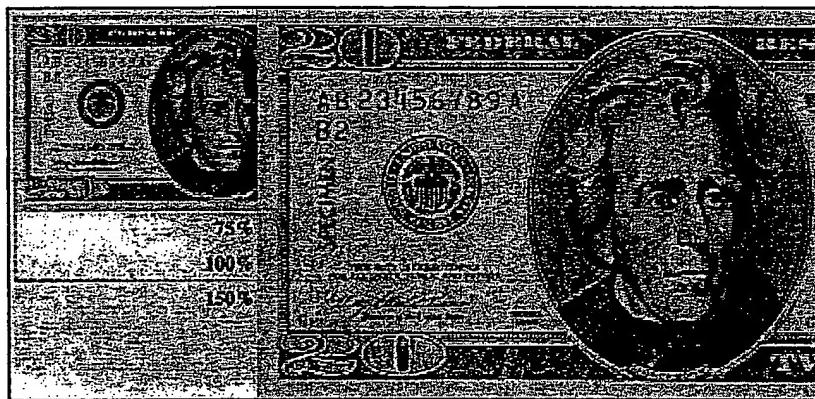
Illustrations of Currency, checks, or Other Obligations

The law sharply restricts photographs or other printed reproductions of paper currency, checks, bonds, revenue stamps, and securities of the United States and foreign governments.

U.S. Currency

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1. the illustration is of a size less than three-fourths or more than one and one-half, in linear dimension, of each part of the item illustrated;
2. the illustration is one-sided; and
3. all negatives, plates, positives, digitized storage medium, graphic files, magnetic medium, optical storage devices, and any other thing used in the making of the illustration that contain an image of the illustration or any part thereof are destroyed and/or deleted or erased after their final use.



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Photographic or other likenesses of other United States obligations and securities and foreign currencies are permissible for any non-fraudulent purpose, provided the items are reproduced in black and white and are less than three-quarters or greater than one-and-one-half times the size, in linear dimension, of any part of the original item being reproduced. Negatives and plates used in making the likenesses must be destroyed after their use for the purpose for which they were made. This policy permits the use of currency reproductions in commercial advertisements, provided they conform to the size and color restrictions.

Motion picture films, microfilms, videotapes, and slides of paper currency, securities, and other obligations may be made in color or black and white for projection or telecasting. No prints may be made from these unless they conform to the size and color restrictions.

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Note: Canceled U.S. and foreign postage stamps must bear an official cancellation mark, i.e., the stamps must have been used for postage. Also, the plates and negatives, including glossy prints, of any United States or foreign obligations must be destroyed after their final use for the purpose for which they were made.

Printed illustrations of United States and foreign revenue stamps are permissible in black and white only. There are no size restrictions for revenue stamps.

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From: Richard M. Smith [mailto:rms@computerbytesman.com]=20
Sent: Saturday, January 17, 2004 12:10 PM
To: BUGTRAQ@SECURITYFOCUS. COM
Subject: HP printers and currency anti-copying measures

Hi,

Last week, the Associated Press reported that Adobe has incorporated anti-copying technology in their Photoshop CS software which prevents users from opening image files of U.S. and European currency. Here's the article:

Adobe admits to currency blocker
<http://tinyurl.com/2xnno>
=20
(<http://www.sanmateocountytimes.com/Stories/0,1413,87~11271~1882929,00.html>)

I did some investigating on my own computer and discovered that HP has also been shipping currency anti-copying software in their printer drives since at least the summer of 2002. I have an HP 130 photo printer and found the string "<http://www.rulesforuse.org>" embedded in the driver. =20

According to a few newsgroup messages posted in 2002 and 2003, folks are seeing this URL printed out when they attempt to print images of certain types of bills. An HP printer with this anti-copying technology only prints out an inch of a currency image before aborting the print job.

Here is a list of HP printers which appear to have this anti-copy technology embedded in their Windows printer drivers:

HP 130
HP 230
HP 7150
HP 7345
HP 7350
HP 7550

I suspect the list of affected HP printers is much longer.

I located these printer drivers simply by searching all files in my Windows and Program Files directories for the string "rulesforuse". If other folks run this same experiment, please let me know of other programs which appear to contain currency anti-copy technology.

There are some unanswered questions raised by this quiet effort by U.S. and European governments to turn home computers into anti-counterfeiting "cops":

1. Besides graphic programs and printer drivers, what other kinds of software is this currency anti-copy technology being embedded in?
2. Are companies being required to include currency anti-copying technology in their products? If not, =20

what incentives are being offered to companies to=20
include the technology on a voluntary basis?

3. Will future versions of this technology, "phone home" to the rulesforuse.org Web site with details about a violation of the currency copying rules? It would be very easy to include an email address, name of the image file, software version number, etc. embedded in a URL to the rulesforuse.org when a violation has been detected.

Richard M. Smith
<http://www.ComputerBytesMan.com>

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World Banks Working To Stop Counterfeiting

March 9, 2004

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The major central banks confirmed that they've worked with software and hardware vendors to keep counterfeiters from being able to use PCs to make phony money.

By Alexander G. Higgins, Associated Press Writer

GENEVA (AP) – The world's major central banks confirmed Tuesday that they collaborated with leading hardware and software companies to keep personal computers from being used to make counterfeit money.

Work begun nearly four years ago by the so-called Group of Ten central banks resulted in the "counterfeit deterrence system," according to the statement from the Bank for International Settlements in Basel.

"Several leading personal computer hardware and software manufacturers have voluntarily adopted the system in recognition of the harm that counterfeit currency can cause their customers and the general public," said BIS, known as "the central bankers' central bank."

The BIS agreement became a source of public debate earlier this year when software maker Adobe admitted altering its Photoshop program to discourage counterfeiters. The issue has angered computer users who worry it will lead to censorship and future restrictions on other types of images, such as copyrighted or adult material.

An official familiar with the development of the technology said the system is based on special coding on bank notes, which currently is included only on major currencies.

Printer "drivers"—the software that makes printers work with PCs—recognize the code and refuse to print the complete image of a bill. That driver is included in almost 90 percent of the printers available today, said the official, who spoke on condition of anonymity.

Adobe, maker of the widely used graphics program Photoshop, acknowledged in January that it quietly added the technology to the software at the request of government regulators and international bankers.

Photoshop now refuses to display images of coded currency and advises the user to consult rules against copying bank notes, the official added.

"Why can't the product going mobile outpace th



EXHIBIT Y

EXHIBIT Y (4b)

A third step that will be added later this year is software that will make scanners refuse to scan images of currency, the official said.

The bank statement said no one could use the technology to track the use of a personal computer or digital imaging tool.

"Consumers will not notice any difference in the performance or effectiveness of products equipped with this technology," it said.

The Group of 10 banks represent the world's largest economies. There are actually 11 countries in the group: the United States, Japan, Germany, Britain, France, Canada and Italy plus Switzerland, Sweden, Belgium and the Netherlands.

Altogether 27 central banks and note-printing authorities joined in the Central Bank Counterfeit Deterrence Group, the working group that developed the system, the BIS statement said.

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Enterprise software

Adobe, others slip anticounterfeiting code into apps

Last modified: January 9, 2004, 5:43 PM PST

By Robert Lemos
Staff Writer, CNET News.com[PRINT](#) [E-MAIL](#) [YOUR TAKE](#) [SAVE](#)

Adobe and other makers of image-manipulation programs have, at the behest of a little-known group of national banks, inserted secret technology into their programs to foil counterfeiting, the companies acknowledged this week.

Photoshop and other programs will no longer be able to open files containing images of several nations' currencies, said Kevin Connor, director of product management for Adobe. The code to detect such images came from the Central Bank Counterfeit Deterrence Group, a low-profile association representing the national banks from Belgium, Canada, France, Germany, Italy, Japan, the Netherlands, Sweden, Switzerland, the United Kingdom and the United States.

At the request of the group, Adobe and other software companies have inserted the functionality into their programs.

"This is a relatively new thing," Connor said. "We are not the first software application to do this, but we are probably the largest."

While Connor didn't know which currencies were protected by the technology, users of Adobe Photoshop CS and Jasc's Paintshop Pro have complained that files containing images of the new U.S. \$20 bill and several Euro denominations cannot be opened. Moreover, Connor stressed that the technology is already included in most color printers.

The creator of the technology, Digimarc, confirmed that it had produced the code under contract to the banking group, but wouldn't discuss any details.

"Due to the nature of the project, all the players and details are confidential," said Leslie Constans. Jasc, the maker of Paintshop Pro, couldn't be reached for comment.

Little information exists on the Central Bank Counterfeit Deterrence

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EXHIBIT X

Group (CBCDG).

The association was formed in 1993 by the governors of the G-10 central banks, according to the Bank of Canada's annual report. Originally called SSG-2, the group has mainly been given the task of developing a system to deter computer-based counterfeiting. In 2003, the United States gave \$2.9 million to the counterfeit-deterrence program, according to a report from the Federal Reserve. The Bank for International Settlements acts as the association's agent in contractual arrangements, according to information on the BIS's Web site.

The group could not be contacted for comment.

As early as 2000, the Central Bank Counterfeit Deterrence Group started approaching companies that made image manipulation programs as well as color printers, asking them to include anticounterfeiting technology in their products. In addition, the European Central Bank has requested that the Commission for European Communities create legislation that would make the inclusion of such technology mandatory.

In the United States, such technology goes beyond the requirements of the law. U.S. artists are able to scan and use the image of currency in their works as long as the image is less than 75 percent or greater than 150 percent of the dimensions of the original bill. Artists are also required to only make single-sided prints of the image and to destroy the digital copy when the work is done.

"The current implementation does not take into account your intent," said Adobe's Connor, who characterized the curtailing of artists rights as just "changing the source of where you would get the images."

Now artists will have to download images from a legal source, such as the U.S. Bureau of Printing and Engraving.

Yet, one poster to Adobe's forums found that even bank-provided images of currencies couldn't be opened. A collage of several denominations from a Swedish bank couldn't be opened.

"This is insane," the person wrote. "Nobody, and certainly not software I pay for, should have any say of what sort of image I am allowed to open."

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Central banks and technology industry join to combat banknote counterfeiting

9 March 2004

In response to the threat of increasing use of personal computers and digital imaging tools in counterfeiting banknotes, the Governors of the G10 central banks authorised in May 2000 the development by a group of central banks of a system to deter PC-based counterfeiting. At their meeting in March 2004, the Governors took note of important progress in this area.

The Central Bank Counterfeit Deterrence Group (CBCDG) has now developed the Counterfeit Deterrence System, consisting of anti-counterfeiting technologies which prevent personal computers and digital imaging tools from capturing or reproducing the image of a protected banknote.

Several leading personal computer hardware and software manufacturers have voluntarily adopted the system in recognition of the harm that counterfeit currency can cause their customers and the general public. The technology does not have the capacity to track the use of a personal computer or digital imaging tool and consumers will not notice any difference in the performance or effectiveness of products equipped with this technology.

Further information is available on the website www.rulesforuse.org, which has links to the regulations of various countries governing the reproduction of banknotes. In countries where the new technology restricts a user's ability to copy images of banknotes, the central bank (or the appropriate authority) will make available banknote images for reproduction in accordance with its requirements. The www.rulesforuse.org website directs users to the procedures and sources of banknote images for countries where they are available.

What is the CBCDG?

The CBCDG's mission is to investigate emerging threats to the security of banknotes and to propose solutions for implementation by issuing authorities. The CBCDG is a working group of 27 central banks and note printing authorities. Its Chairman is Mr Marc Salade, National Bank of Belgium. Ms Lorraine Laviolette, Bank of Canada, serves as the Project Director of CBCDG activities. The CBCDG meets annually at the Bank for International Settlements

Further Information

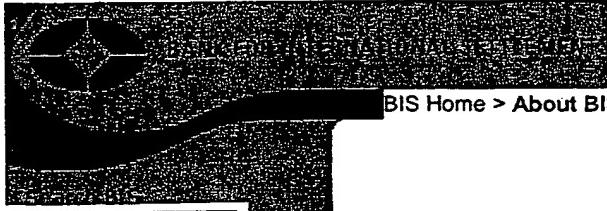
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EXHIBIT W

(BIS) in Basel, where its secretariat is located.

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June 2003

The Bank for International Settlements (BIS) is an international organisation which fosters international monetary and financial cooperation and serves as a bank for central banks.

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- a centre for economic and monetary research
- a prime counterparty for central banks in their financial transactions
- agent or trustee in connection with international financial operations

The head office is in Basel, Switzerland and there are two representative offices: in the Hong Kong Special Administrative Region of the People's Republic of China and in Mexico City.

Established on 17 May 1930, the BIS is the world's oldest international financial organisation.

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EXHIBIT V

Kevin Connor - 07:33pm Jan 8, 2004 Pacific (#269 of 1380)

As someone at Adobe who was involved in the decision to include counterfeit deterrence in Photoshop CS, let me finally provide you with a response to all of these concerns and questions. Sorry for the delay!:

Photoshop CS does indeed include a counterfeit deterrence system (CDS) to prevent the illegal duplication of banknotes. The CDS was created by a consortium of central banks from around the world. We, along with other hardware and software manufacturers, have included CDS in our products at their request to address the threat posed by the use of digital technologies in the counterfeiting of banknotes. There are other software products from other companies that already use this same technology. There are also hardware products that use the same or similar technology. For example, most color copiers sold today will not allow you to copy currency.

As digital imaging technology advances, becoming more broadly available and user friendly, the old barriers to currency reproduction are becoming less effective. The unscrupulous are taking advantage of the functionality that is being provided to the vast majority of honest users for the purposes of counterfeiting currency. In the US and around the world, counterfeiting through digital means is increasing exponentially, and retailers and the general public--including our own customers--are at risk.

Counterfeit currency is essentially a hot potato. Whoever holds it last, loses. The person who loses isn't necessarily the counterfeiter. There's no government body in place to "reimburse" people who, through no fault of their own, get paid with currency that turns out to be counterfeit. In our implementation of CDS, we've worked very hard to balance the need to protect these unsuspecting victims of counterfeiting along with the need to continue to provide a product that efficiently does what honest customers need it to do.

There appear to be several major concerns and objections repeated throughout this message thread, so I'll try to address each one individually:

1. Performance: CDS does not cause any noticeable slowdown in Photoshop performance. During most operations performed in Photoshop, CDS is not used at all. When it is used, the performance impact often is just a fraction of a second.
2. Legal use of notes: It is true that the current implementation of CDS will prevent you from scanning in your own banknotes even if your usage intent is entirely within legal boundaries. Regulations for using banknote images vary by country. It is the responsibility of the central bank in each country to provide images that can be used within the legal guidelines of that country. In other words, if you want to legally reproduce images of the new \$20US bills on a Web site or in a marketing brochure, you can contact the U.S. Bureau of Engraving and Printing for legal images that can be opened and manipulated in Photoshop CS. (You can visit them at www.moneyfactory.com.) Similar solutions should be available in other countries. If you find that your central bank is not providing adequate support to permit legal uses of their banknote images, then you should let them know.
3. Adobe's intentions: Please be assured that this implementation of CDS is not a step down the road towards Adobe becoming "Big Brother." We know that one of the reasons people love Photoshop is because it's an incredibly flexible tool that can be used for so many different things. That's also one of the reasons we at Adobe enjoy working on new versions. Finding ways to prevent you from doing things in Photoshop really doesn't interest us! Moreover, the CDS is not Adobe technology, but was provided by the central banks, who would have no reason to want to restrict anything other than bank notes. Counterfeiting is really a special case in which we could see how our own technology advances were making it easier to commit crimes and we were asked to implement a solution that would have minimal

EXHIBIT U

EXHIBIT U (4f)

impact on honest customers. Yes, there is some impact, in that you need to contact your central bank for images, but our hope is that it's not a huge inconvenience for that small group of customers who do need to reproduce these images in their graphic design work. It also provides the central banks with an opportunity to better educate customers on exactly what is and isn't legal usage.

Of course, CDS in Photoshop CS is essentially a 1.0 implementation of a feature, analogous to the state of the layers palette in Photoshop 3.0. We realize that there may be room for improvement, particularly if there are corner usage cases that weren't taken into account in our current designs. We do want to hear about your concerns, and we definitely want to hear if there's a specific problem that this implementation has created for you. As with any Photoshop feature, we depend on hearing from customers so that we can make continual improvements release after release.

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Photoshop CS and CDS

Adobe® Photoshop® CS software includes a counterfeit deterrence system (CDS) that prevents the use of the product to illegally duplicate banknotes. As implemented, CDS prevents users from opening detailed images of banknotes within Photoshop CS. The CDS technology was commissioned by the Central Bank Counterfeit Deterrence Group (CBCDG), a consortium of central banks from around the world. Adobe has included CDS in Photoshop CS at the request of the CBCDG.

Many countries allow the reproduction of their currency, subject to specific restrictions. For example, images of currency are often legitimately incorporated into advertising materials and fine art projects. Adobe incorporated CDS into Photoshop CS only after receiving assurance from the CBCDG that central banks, in countries that permit currency reproductions, would provide images of currency that can be used within the legal guidelines of those countries. Adobe is actively working with central banks to ensure that viable images will be available to our customers. CBCDG member central banks may be reached via links found at <http://www.rulesforuse.org>.

Users who are unable to locate suitable currency images from central banks should contact Adobe at photoshpcds@adobe.com. Adobe will forward all such inquiries to central banks in the appropriate regions.

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EXHIBIT T

EXHIBIT T (4g)

<http://www.adobe.com/products/photoshop/cds.html>

4/26/200

genecowan.com

Just as I thought

g-world

COVANOPOLIS

Just as I thought

A web log from the man who brought you "pissing" and "moaning"

[« A new class of non-citizen](#) | [Main](#) | [Let's send him in the first rocket »](#)

April 2004

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January 08, 2004

Stop, you counterfeiter

Isn't this an interesting example of making criminals of us all: the new version of Adobe Photoshop will not allow you to scan, open, or manipulate images of U.S. banknotes.

Using Photoshop CS to open this publicly available image of the \$20 bill (from the U.S. Treasury site) yields an alert:

This application does not support the unauthorized processing of banknote images.

For more information, select the information button below for Internet-based information on restrictions for copying and distributing banknote images or go to www.rulesforuse.org.

Doing exactly that takes you to the U.S. Secret Service website, which states:

The Counterfeit Detection Act of 1992, Public Law 102-550, in Section 411 of Title 31 of the Code of Federal Regulations, permits color illustrations of U.S. currency provided:

1. the illustration is of a size less than three-fourths or more than one and one-half, in linear dimension, of each part of the item illustrated;

2. the illustration is one-sided; and

3. all negatives, plates, positives, digitized storage medium, graphic files, magnetic medium, optical storage devices, and any other thing used in the making of the illustration that contain an image of the illustration or any part thereof are destroyed and/or deleted or erased after their final use.

So, in other words, the U.S. government says that I can use currency provided I follow those rules. But Adobe is enforcing a law that's all their own.

EXHIBIT S

Looking for Something?

Search Just As I Thought:

Search

In the Archives

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Recent Rants

[A g-mail explosion](#)

Two things about this: first, this is yet another example of the hysteria that is making criminals of every consumer, from people who make copies of music to people who record television programs. Second, it's interesting that the program can recognize banknotes. I wonder if this has something to do with the recent redesign of U.S. currency? Is there something in the money that triggers this? Is this one of the "additional anti-counterfeiting measures" that have been kept secret? In fact, the Treasury website says: "Also, a machine-readable feature has been incorporated for the blind. It will facilitate development of convenient scanning devices that could identify the denomination of the note."

More on this knee-jerk nonsense on slashdot.

[via MetaFilter]

[More on this from CNet - Adobe speaks.]

Update: CNet reports that the technology behind this was developed by Digimarc, which explains how it works. Digimarc is the company that provides "watermarks" in images which can be decoded by a computer even if the image is cropped, scanned, or photocopied. The Digimarc plug-in has been embedded in Photoshop for some time now. Anyone can register with Digimarc, which then allows them to embed a serial number or code in their images using the plug-in. The code is embedded by use of a sort of 3D bar code that takes advantage of the detail in the image to make it invisible to the naked eye. It's pretty cool, actually. Anyway, this is what I figured the Treasury was using - a Digimarc watermark in the \$20 bill, embedded in the details.

Posted by Gene at January 8, 2004 04:31 PM | TrackBack

Comments

Oddly enough you can open the image and edit it in ImageReady CS which is packaged with Photoshop. Not just bizarre but inconsistent as well.

Posted by: Tim at January 9, 2004 09:02 PM

Post a comment

Name:

Remember personal info?

Yes No

Email Address:

URL:

Comments:

I have a good excuse
A blast from her past
Tell your mommy
Is it safe?
Dirty Air
April Fool!
Fox: Words Not Needed
Perhaps I should sue
Radio for Kirk
Radio for the rest of us
These are broken

 I am Mr. Cowan, your host.

Do you really want to know?

 Cowan Cams

Backyard Weather

 Drop a Line

"gene at genecowan.com"
Send a mobile message
AIM/iChat: itsgenecowan

 Link-o-Rama

genecowan.com
g-world: a personal theme park
Jann Linder
The Island of Dr. Eric
Sara Hickman
National Council for the Social Studies

Sives

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Ananova Quirkies
Annoying.com
AntiCouler: Evil or Just Stupid?
Atrios
Body and Soul
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Chrisonomicon
D.C. Metro Blog Map
Dave Prime's Journal
Dave Prime's Journal
David Sirota
DCRTV
Democratic Underground
digital flotsam
dogpoet
dollarshort.org
elf-reflection[updated]
FARK.com
futurefeedforward
Gawker
get off my lawn
Gizmodo
go fish[updated]



Software Detection of Currency

Steven J. Murdoch

University of Cambridge, Computer Laboratory,
15 JJ Thompson Avenue, Cambridge CB3 0FD, United Kingdom
<http://www.cl.cam.ac.uk/users/sjm217/>

6th Information Hiding Workshop
Toronto, Ontario, Canada
23 – 25 May 2004



EXHIBIT AA

EXHIBIT AA (5a)



Background

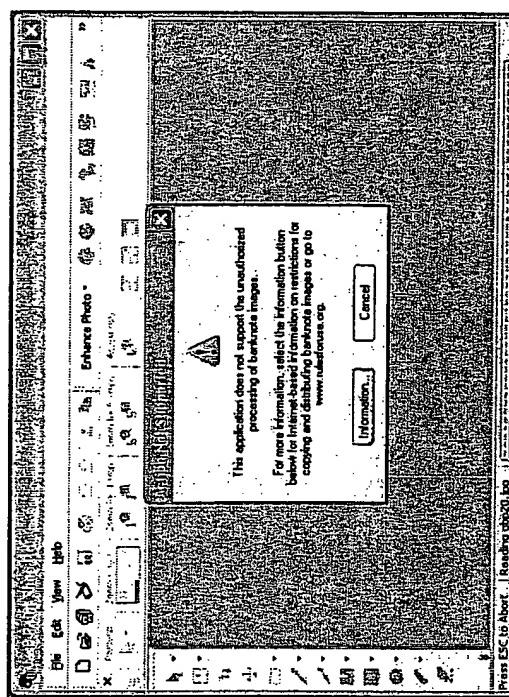
- New image processing software incorporates code to prevent images of currency being processed
- Includes Adobe Photoshop, JASC Paintshop Pro, HP printer Drivers, Canon scanner software
- Details of the detection algorithm not publicly known, even by the authors of software which uses it
- Code seems to have been produced by Digimarc, on behalf of the G10 Central Bank Counterfeit Deterrence Group (27 banks)



Z



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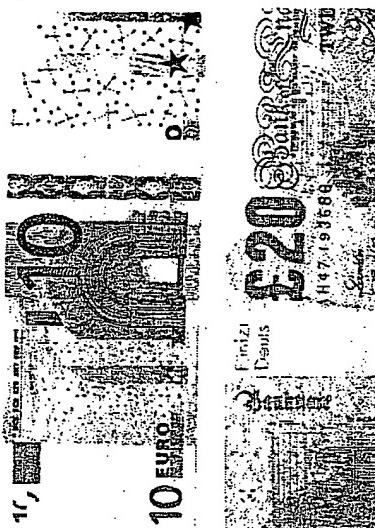
3



The EURion Constellation

Markus Kuhn, Computer Laboratory, University of Cambridge, 2002-02-08

Modern colour photocopying machines refuse to copy many of the more recent banknotes, such as the pound, mark or euro. But how do they decide what is a banknote? They search for a simple phonetic pattern, consisting of five 1 mm large circles that appears on many more recent banknotes, usually in yellow, but often also in green or orange. The circles are particularly well visible in the blue channel, can be easily detected with a matched filter and used for the presence of the characteristic constellation.



Steven J. Murdoch Software Detection of Currency

Strongly Detected Regions (1)

Background
Strongly Detected Regions
Benchmarking
More Information

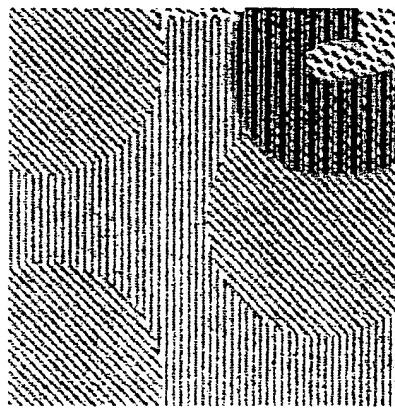


5

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Software Detection of Current Eye State
Steven J. Murdoch

6

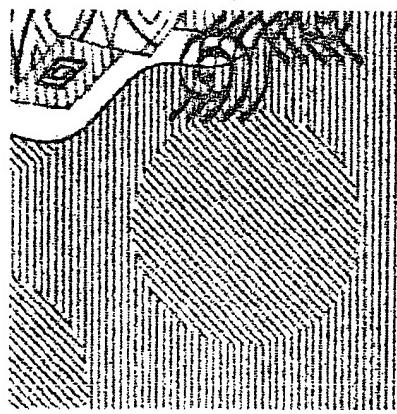
Strongly Detected Regions (2)



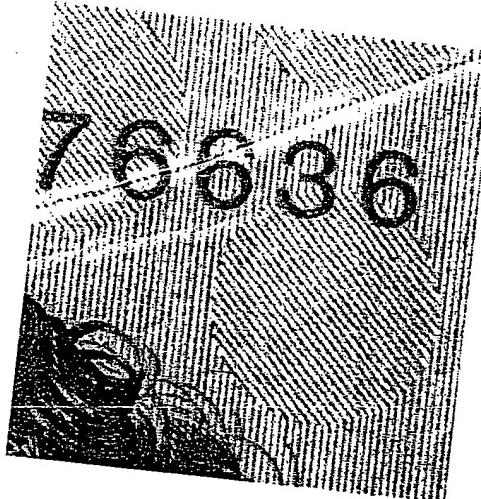
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Steven J. Murdoch [Software Detection of Currency](#)

Strongly Detected Regions (2)



Strongly Detected Regions (2)



Strongly Detected Regions
Background
Rectangular
Mark Information



Stephen J. Murtach | Software Detection of Circularity

8

Midpoint Filtering



CM_midpoint(10)



Steven J. Murdoch Software Detection of Currency

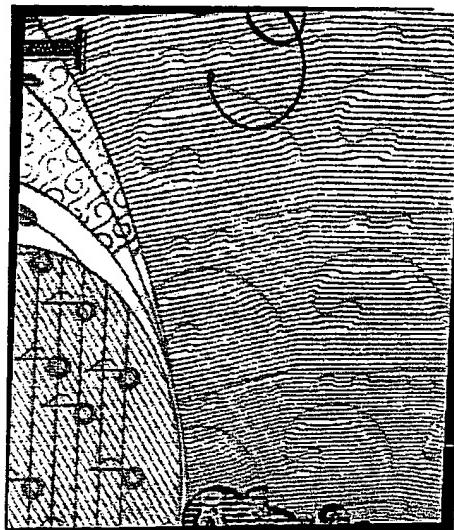
9

11



Steven J. Murdoch Software Detection of Currency

CM_shearing(2.6)



Background
Strongly Detected Regions
Benchmarking
More Information

Shearing

11



CM_sampdownup(0.8, 1/0.8)

Steven J. Murdoch

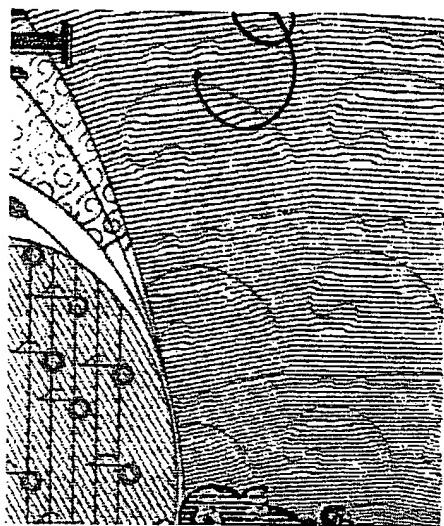
Software Detection of Currency



Resampling



12



Wavelet Compression





For more information...

Results of other tests and further details:

<http://www.cl.cam.ac.uk/~sjm217/projects/currency/>

Contact:

<http://www.cl.cam.ac.uk/~sjm217/>



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